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THE MONTANA FUTURES PROCESS

Final Report to the Old West Commission

June 1976

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THE MONTANA FUTURES PROCESS

FINAL REPORT TO THE OLD WEST COMMISSION

Prepared by the Research and Information Systems Division
of the Montana Department of Community Affairs

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Chapter 1

An Overview of The Montana Futures Process

Introduction

The Montana Futures Process (MFP) is a computer simulation routine designed to serve as a quantitative tool in the appraisal of the economic impact of a wide range of exogenous events. MFP represents an initial effort for Montana state government to develop an automated data base and methodology for preparing baseline as well as conditional forecasts of regional activity. MFP combines trend as well as export base analysis into a complementary whole, thus avoiding the divergent forecasts of employment and population that commonly result from their separate application. This combination provides the ability to simulate the effects of off-trend changes while taking into account the long term growth pattern.

The overall approach is by no means unique within the development of regional analysis. The method has been employed in various forms by state and regional modelers for many years. The main advantage of MFP lies in its ability to produce at low cost, in terms of both time and resources, projections of the impacts of economic events for which there is no historical precedent. But because of the high degree of uncertainty

involved, the output generated by the framework must be interpreted with discretion. As with any other information source, the outputs of MFP must be considered only a part of the analysis rather than the end product. The numbers supplied by MFP are no more accurate than the scenarios provided, and the error inherent in the model structure.

In order to discuss the nature of MFP the paper has been divided into several chapters and sections. The present chapter includes a brief summary of the general nature and history of the alternative futures approach to modeling. Since numerous states have adopted this framework, a review of the structure of one state model (Arizona) is provided for comparison. Chapter Two and the associated appendices, represent a more detailed discussion of the components of MFP. This chapter focuses on the methodology used in constructing the economic and demographic submodels. Chapter Three illustrates uses of the system, and contains some discussion of possible pitfalls. Emphasis is placed on the difficulties encountered when making long range impact projections.

The Alternative Futures Approach

Over the last few years interest in empirical analysis at the regional level has grown sharply. Numerous states have recently constructed, or have begun construction of regional growth models. While the exact methodology varies somewhat from state to state, all the systems share several fundamental attributes. For example, all alternative futures systems contain economic and demographic submodels used to project or

simulate the employment and population effects of a specified change in activity. As a result, all of the models link employment and population in some manner.

Typically the systems are driven by either trend or simulated values for basic employment activity. The derivative values are calculated from some form of export base construct, usually an input-output (I/O) framework or a basic - nonbasic regression equation. The resultant employment level is compared with the natural growth population level flowing from the demographic model. Migration is then a function of the growth in population relative to the growth in employment.

The basic rationale behind the construction of such models is to provide improved estimates of population and employment under varying sets of circumstances. As a consequence, such models, MFP included, are general rather than specific in nature. That is, the models include numerous sectors and parameters to allow a high degree of simulation flexibility. For those states which have chosen this course, the emphasis has shifted away from point estimates to sets of estimates contingent upon a group of scenarios. The approach is justified on the grounds that traditional forecasting models cannot be used to project the impacts of events which represent significant shifts from past trends. Given the difficulty in simulating such phenomena, it is not at all surprising that numerous Western states have opted for the alternative futures - simulation methodology. It is in those very states that energy related issues are of prime importance. Such issues cannot be adequately modeled using

normal econometric procedures. However, it should be remembered that the advantages of the alternative futures approach are closely linked to the reliability of the scenarios. For similar reasons, the usefulness of such models is contingent upon being able to attach at least a subjective probability to each scenario. Also, the framework implies that the futures are realistic from a political standpoint, i.e., that individual states can influence their own destiny to the extent implied by the scenario. In short, while the procedure has a simulation orientation, the desired result from a policy position still remains a forecast.

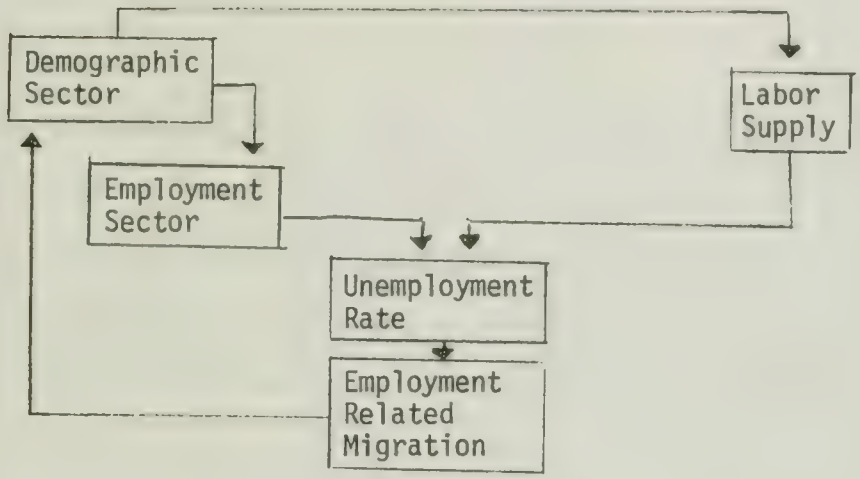
A Comparison of State Models

As mentioned earlier, numerous states have constructed or are in the process of constructing simulation routines. To date all of the states in both the Four Corners and Old West Commission Regions have chosen this course. In addition, Alaska and Minnesota have developed similar models. The technique has also been employed at the regional level as well as at the city level. As a result of this rapid diffusion the origin of the idea is difficult to trace. However, it appears that the first attempts to implement the concept were made simultaneously in Utah and San Diego. Prior to their efforts the initial conceptual form of the system can probably be attributed to Battelle Columbus Laboratories, although the basic idea of relating employment and population predates regional analysis itself. Since the intent of the present section is not to survey the literature, but rather to explain the nature of MFP in light of other similar efforts, the following discussion will focus on a comparison of MFP and the current version of the Arizona Trade Off Model

(ATOM-3). However, given the similarity between ATOM and the Utah and Wyoming versions, the following comments would hold for all three models. The logic of ATOM is shown in Diagram 1.

Diagram 1

ATOM MODEL STRUCTURE



In ATOM, the economic submodel consists of what can be termed a partial input-output (I/O) framework. The demand for outputs of service and trade sectors is split into two portions. The first consists of the outputs directly supplied to other industrial users; the other part is supplied to consumers. The first portion, the "interindustry demand" is represented by a rectangular matrix. The logic of the approach follows: Basic employment is estimated using trend analysis or scenario. The interindustry portion of demand for derivative industries is calculated using the I/O matrix. The other portion, the "induced demand" is estimated using regressions on population and employment aggregates. The employment of the industries is summed and compared with the supply of labor resulting from the application of fixed participation rates to the survived population from the demographic model, a cohort survival

system. An implied unemployment rate is calculated and is used to trigger migration if the value falls outside of a specified range. If migration is necessary, the model adds to population using industry specific age and sex migration propensities. The new population level is used to recalculate "derivative demand" resulting in a new employment level. This process continues until the implied unemployment rate falls within the specified range.

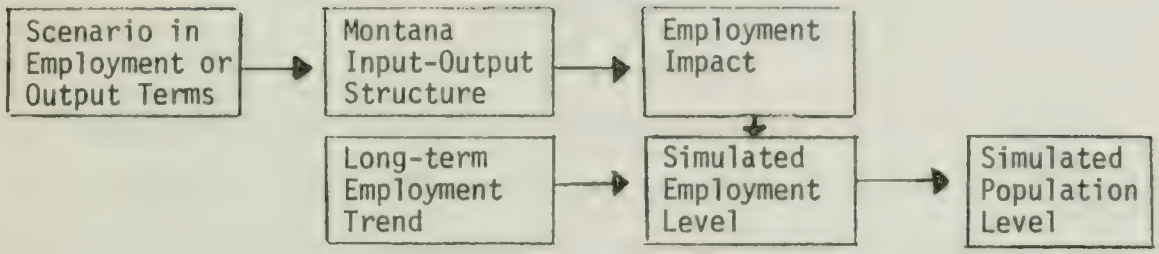
This approach is indicative of nearly all alternative futures systems. While the method is intuitively appealing in the sense that an attempt is made to relate employment and population changes, certain problems exist. One fundamental problem is that in the real world, the relationship between the basic and nonbasic employment changes over time.

ATOM'S structure does not include this major effect which over the past few years has resulted in a marked change in employment composition. However, even if the omission were rectified, it is unlikely that the I/O used with ATOM would be valid given the rather unsystematic construction and the use of the Polenske - Rogers trade model. An added problem is the use of fixed particiapation rates. The validation of a model which does not address either basic/nonbasic shifts or changing participation rates over a period which has been dominated by just these same factors brings forth many questions as to its usefulness.

In light of these problems, the MFP approach is technically different although the conceptual properties remain essentially the same. The structure of MFP is depicted below.

Diagram 2

MFP Design



MFP incorporates a complete I/O framework which eliminates the need for the iterative procedure in ATOM. Also, it should be pointed out that the long term employment trends are not run through the I/O matrix. The I/O Model is used only to analyze the employment effects of a scenario, which are then combined with the baseline level. Another point of departure with ATOM is found in the employment population link. MFP uses simple population multipliers and stresses changes in female participation rates. This effect is certainly the most difficult and the most important factor to estimate. More attention is devoted to this issue later.

In short, MFP is a somewhat simpler than ATOM. This is entirely deliberate. The reasons for this are discussed in the next chapter.

Chapter 2

General Methodology

Model Construction

The Montana Futures Process system is composed of several submodels including an input-output model, an employment trend model, and a model linking population and employment. The purpose of this chapter is to discuss how the above submodels were constructed and to explain the reasons why the models are linked in the present fashion.

EMPLOYMENT TREND MODEL

Baseline, or simple time-trend projections, were made for twenty-eight employment sectors, at the state and labor market area (LMA) levels.[1] In order to produce the LMA series, county level two digit, employment data (Bureau of Economic Analysis series 1965-1974) were aggregated to the LMA level. No attempt was made to link the series to national projections since the forecasts available at a useful level of industrial aggregation are generally time trends themselves.

INPUT-OUTPUT MODEL

An input-output model was constructed from secondary data sources to analyze the employment linkages within the state.[2] After a state

[1]See Appendix I for the employment aggregation scheme and the LMA map.

[2]The I/O table is included in Appendix II.

industrial aggregation scheme (thirty-five producing sectors) was determined, transactions data for the state were derived in the following manner. Montana specific wage and salary data (Employment Security 202 series) for 1972 were used to scale the 1967 national transactions table at the 484 industrial sector level to provide a nonspatial Montana version of the national table. The nonspatial table was then aggregated to the thirty-five sector level. The row sums by industry were calculated and compared with known output levels from 1972 census receipts data, i.e., census of mining, manufacturing, trade etc. If the sum of requirements by the industries and components of final demand exceeded the output level, it was assumed that the residual constituted a net import. Imports of this sector were allocated to the various industrial users on the basis of their resource utilization. Conversely, if the row total was less than the output level, it was assumed that the difference represented a net export. A matrix of direct requirements was then calculated. The principal household linkages in the construction, service and trade sectors were included in the direct requirements matrix and the resulting matrix was then inverted, producing the total requirements form. This approach allowed for intra-regional service and trade effects while constraining linkages between the household and other industrial sectors. Such an approach appears to be justifiable in a relatively small, undiversified state such as Montana. Since the principal interest of the project was in terms of employment changes rather than output changes, the I/O grid was reconstructed in employment terms. This transformation was based on past output-employment ratios weighted by national productivity projections from the Bureau of Labor Statistics. The approach, in crude form, allows for technological change to occur over time, resulting in improved employment simulations.

Substate Allocation Procedure

Since the I/O matrix was constructed at the state level, in order to simulate substate developments it was necessary to allocate the total employment changes associated with a specific scenario to the substate level. The allocation of derivative employment with the exception of wholesale trade was made on the basis of the change in basic activity. In other words, the derivative employment was allocated to the LMA where the development occurred. Wholesale trade was allocated on the basis of its existing distribution.

Given the tendency for one region (LMA) to affect another, an attempt was made to incorporate intrastate spatial linkages. Market areas for principal cities (over 2,000 population) were calculated using a simple gravity flow form known as Reiley's Law. Given this trade area map and county service and trade location quotients, a service and trade allocation matrix was constructed.

The approach allows for a development in one LMA to affect service and trade employment in another by taking into account distance and historical market development inertia. Implicit within this approach is the assumption that individual personal consumption patterns are similar from county to county. The matrix, in effect, normalizes consumption expenditures but allows for LMA location quotients to vary. For example, if a region's trade location quotient is two and the adjoining region's quotient is one-half, then fifty percent of the second region's trade flows to the first, assuming that the second region is within the influence area of the first. Simply stated, the service and trade reallocation

matrix distributes trade on an apriori basis using an established but admittedly simple marketing model. This approach is used because without such a procedure, service and trade effects would be distributed uniformly and fail to incorporate the effect of historical market center development.

POPULATION-EMPLOYMENT MODEL

After the employment effects of a scenario are calculated and allocated to the LMA level, the employment changes are merged with the baseline employment trends by industry. The employment levels are summed producing a new employment level. Simply stated, this new employment level is a combination of trend employment plus or minus the employment changes associated with the impact submodel. The specific link between population and employment is very simple, utilizing employment-population multipliers, i.e., population divided by employment. The ratios are calculated individually for each LMA on the basis of LMA employment and population data, i.e., BEA and Census estimates. The mechanics of this link are developed in greater detail later.

A Comment On Method

All models are simplifications regardless of the number of variables or the amount of data included. Unfortunately, the temptation exists to equate model size (i.e., operational complexity) with usefulness. In the case of MFP the overriding principle during the construction of the model was that of simplicity. The major points of departure from the

ATOM framework were largely a result of this approach to modeling. These differences fall largely into two categories, baseline projection technique and employment-population links.

Baseline Projection Technique and Impacts

The simple time trend technique employed in MFP was the result of several factors. During the development of the system it became apparent that users were interested in long term simulations of employment and population. This demand became a major consideration. In light of the rapidly changing mix between basic and nonbasic employment it was decided to separate the trend part of employment from the impact component. For example, total employment in Montana has grown seventeen percent in the last ten years. Over the same time period basic employment declined by nearly ten percent. Since the I/O model is little more than an improved representation of the export base concept at a particular point in time, any long-term employment estimates generated by such a framework would seriously underestimate total employment. In Montana, it is anticipated that this problem will persist in the future.

However, this argument should in no way be interpreted as meaning that the I/O approach to impact analysis is invalid. An I/O table provides considerable insight into the employment and output effects of a development but only in a static sense. For this reason the I/O approach was adopted but used only for estimating the impacts of large scale developments. In Montana the main use of the system will be energy related simulation. Admittedly, problems exist in secondary techniques, but as refinement is

In this effort several different types of employment-population multipliers were calculated. Originally, time trend estimates were made for each LMA. As mentioned earlier these multipliers were derived on the basis of Census population estimates and BEA employment levels. It was soon realized that this approach embodied several major faults. First of all, the employment series (county data) was of relatively short duration. Consequently, any long term extrapolation of the mulipliers produced unrealistic results, namely, multipliers of far less than two. The data, in this simple form indicated that in several LMA's the aggregate participation rate would be much greater than fifty percent, a most unlikely event. In light of this uncertainty, additional methods of determining more reasonable multipliers were explored. Attention was focused on two major factors: the increase in female employment and the age structure of the population.

Much of the increase in the aggregate participation rate can be accounted for by age alone. On the basis of the cohort model it was determined that roughly fifty percent of the increase from 1970 to 1975 could be explained by this factor. When the increase in women's participation rates is included nearly all of the change can be explained. The yearly increase in female participation rates at the state level was calculated on the basis of Census and Employment Security estimates. When this rate of increase is applied uniformly between female cohort groups, the resulting labor force estimates are nearly identical with the yearly population multipliers derived from BEA and Census estimates. However, the cohort model indicates that the rate of increase in the aggregate rate will decline somewhat in the future as the effects of the "baby boom" end. With the assumption that the 1970-1975 female rate of increase

will continue, the approach yields population multipliers which seem to be more plausible. Admittedly, the approach has its limitations since the method explicitly assumes that male rates will not increase, and the rate of increase in female participation will hold in the future. The increasing employment of females is probably contingent upon a continued growth of nonbasic employment opportunities.

The technique discussed is used only to provide LMA baseline multipliers. In contrast another type of multiplier is used for the impact evaluation component. In the second approach, employment is divided in two categories, basic and nonbasic. The basic category includes agricultural, mining, manufacturing, rail and federal government employment. The nonbasic component is defined simply as all other forms of employment. Regressions of state population on basic and nonbasic employment were run. As expected the basic coefficient was much higher...2.99 basic vs. 1.06 nonbasic. This difference is hypothesised to be the result of several factors. First of all most of the basic workers are male. Secondly, a related issue, most of the nonbasic workers are female. This same dependency notion is reinforced by census age, sex, and marital status data. Given the fact MFP will largely be used for simulating the effects of basic activity, the use of the baseline aggregate population multipliers would have been inappropriate, and would probably underestimate population impact. As a result, the basic and nonbasic multipliers are used in conjunction with the I/O system, i.e., applied to both the direct and indirect employment effects by type. These estimates are then merged with the baseline employment levels yielding the total employment level.

Although the use of two types of multipliers may seem to be redundant, a fairly strong argument could be advanced that the two techniques are based on the same phenomenon, namely the increase in female nonbasic employment. For similar reasons it could be hypothesised that the basic and nonbasic multipliers will gradually converge and that the aggregate multiplier will stabilize. In short the division is retained since no estimates are available concerning changes in the sex distribution or industrial mix of employment in the future. Consequently, it is assumed that females will largely be employed in the nonbasic category, and that the growth in total nonbasic employment will continue.

Summary

It is the author's opinion that the sophisticated employment-population link in ATOM is entirely inappropriate for Montana given available data. Furthermore, this link does not address the main issue, that of the female participation rate. MFP attempts to address this issue while keeping the link operationally manageable. Obviously problems exist in the MFP procedure. The uses of MFP, in light of such limitations, are discussed in Chapter 3.

Chapter 3

Uses & Limitations

As indicated in previous sections the MFP system is designed to be a general model applicable to a number of questions. The purpose of this chapter is to highlight projects already completed and to discuss other situations where the model can be applied. In addition, the following includes a description of potential misuses of MFP. Finally, a program for future improvements is outlined.

When the construction of the MFP system was proposed, the Montana Department of Natural Resources (DNR) requested assistance in producing municipal population numbers in the coal impact areas analyzed in the Yellowstone River Basin Study. The resulting project represented the first application of the MFP system. Given DNR's time schedule, a simplified version of MFP was utilized, including very simple population multipliers based on trend and cross sectional regressions. The major conceptual issue was the use of the model for producing impact estimates at the municipal level. As described earlier, MFP provides multi-county area estimates, a level of aggregation unsuitable for water planning. The solution was a combined use of professional judgement and the model. DNR utilized planning personnel to allocate the numbers of direct workers provided by their scenarios to towns on the basis of their knowledge of the area. MFP was used to calculate the derivative employment and population impacts created by the workers in each town. The derivative employment and population was allocated among towns using another judgmental scheme. Given three levels of development for some twelve towns for two different

years, a total of seventy-two scenarios were developed. The structure of MFP allowed the calculation to be completed in one run at low cost. Though the above analysis was a small part of DNR's total program, MFP provided a capability which saved considerable time. Another result of this application was increased recognition of the importance of well developed scenarios as inputs to the process.

A later application of MFP was more straightforward. The State Lands Department requested population and employment estimates associated with a new coal mine. This type of request had been frequently received before the model was built, and it is anticipated that in the future the model will be frequently used to answer similar questions.

Identifying future applications is probably as difficult as forecasting the future itself. However, certain areas of concern are certain to be investigated using the model structure. Construction of reasonable energy development scenarios for the state is underway at this point. The resulting alternative futures will be simulated with MFP and included in the economic report to the Governor prepared for the beginning of the next legislative session. It is anticipated that those involved with energy policy at the state level will use additional alternative futures to explore the implications of different options for the state.

Uses for MFP can be divided into two types. The first type -- alternative futures and impacts -- are frequently demanded by state agencies and an educational process is anticipated to acquaint these users with the technique. The other category includes those applications which

utilize parts of the system. Considerable information was gathered for the model and such data will be useful in to other departments' analyses. For example, the I/O table is helpful in exploring the nature of linkages in the Montana economy. The demographic submodel can be used for applications such as changes in school age population for educational authorities. In addition, the assembly of an employment and population data base will provide quickly accessible information for any studies.

As is natural with any general model, the possibility of misuse of the system exists. Most of the problems result from the attitude that the model provides "truth" forever. The simple fact remains that most effects in Montana are not included in MFP and will never exist in the system. Certain questions do not lend themselves to modeling. A typical example is a request for highly disaggregated spatial distributions of population. At a certain point judgement from those who know the area is preferable. Another area of abuse involves the interpretation of the industry detail of the model. Though some survey work is anticipated for the energy sectors, most of the I/O is secondary and therefore somewhat suspect as far as detailed differentiation between industries is concerned.

The final category of abuse concerns the time interval that is simulated. Certain facts are evident in the business of predicting the future. The farther one goes from the present, the less the relationships of the past apply. Base case trends and I/O matrices based on recent data have little applicability to the year 2020. Where is the cutoff then? The answer to the question depends on the particular study and the

(1) Limited survey of energy sectors in the I/O table.

(2) Completion of a more comprehensive employment data base utilizing more current Employment Security data.

(3) Inclusion of more detailed analysis of base case trends.

(4) Inclusion of an income index to explore the result of changing employment structure.

(5) Analysis of manufacturers survey data to improve the trade sectors of the I/O.

(6) Involvement in a regional process of discussing the implications of decisions which have multi-state effects.

Longer run improvements are certainly a function of the usefulness of the concept in Montana. A primary I/O table might better detail the linkages in Montana. More detailed industry and labor force analysis also would improve outputs. However, the best program to improve model outputs will be a process to improve the inputs: i.e., systematic construction of scenarios which make technological and political sense.

A P P E N D I X I

Employment Scheme

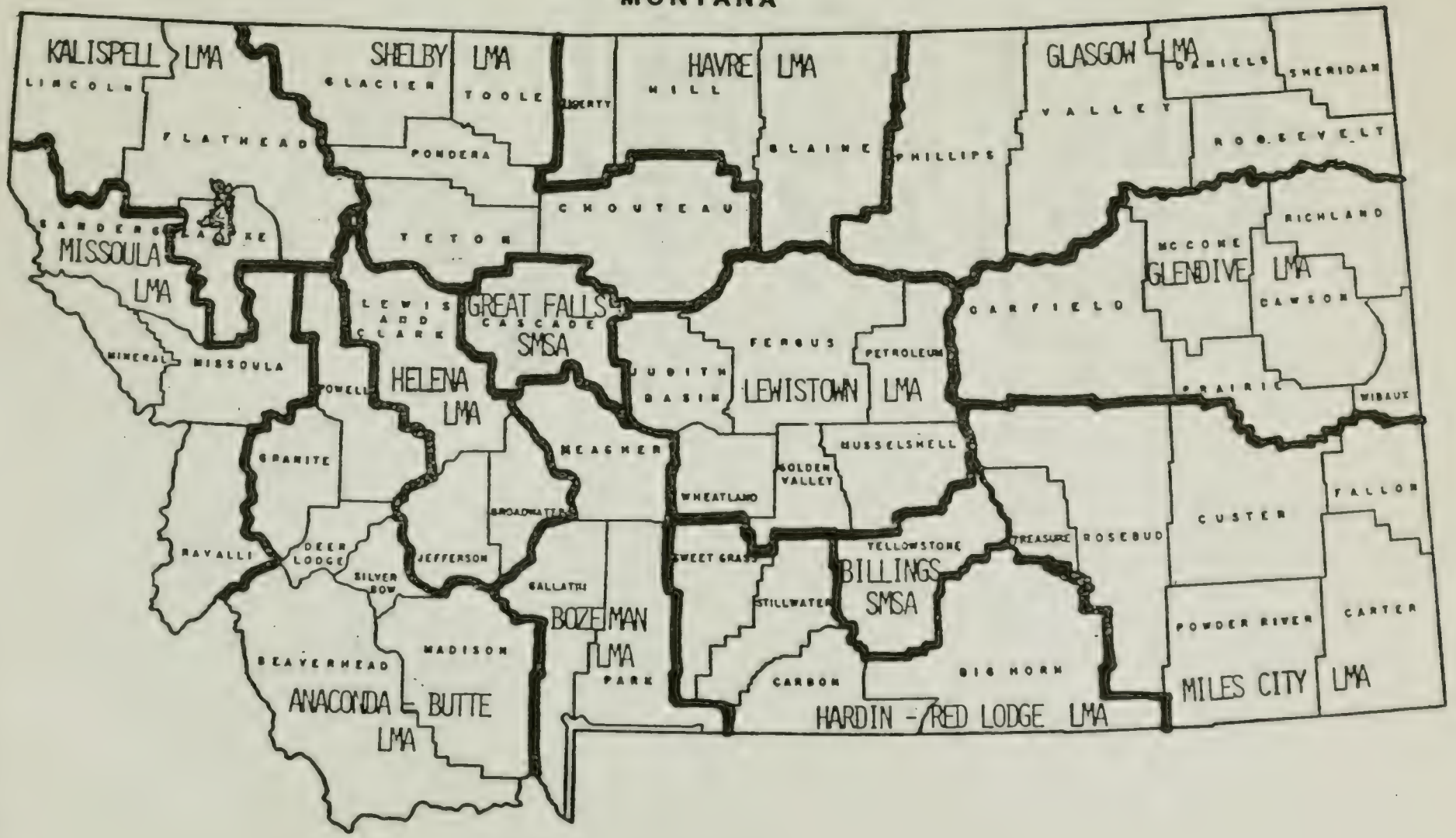
Employment Sectors

Farm Proprietors
Non Farm Proprietors
Ag Services & Forestry
Mining Excluding Fuels
Coal Mining
Petroleum & Natural Gas
Construction
Food & Kindred Products
Printing & Publishing
Chemicals
Lumber & Furniture
Petroleum Refining
Primary Metals
Fabricated Metals
Stone, Clay and Glass
Other Manufacturing
Railroad
Motor Freight
Communications
Utilities
Wholesale Trade
Retail Trade
Finance, Insurance Real Estate
Personal Service
Business Service
Professional Service
Federal Government
State Government

LABOR MARKET AREAS

IN

MONTANA



MFP EMPLOYMENT MODEL
(for one year)

Variable Names

S_{ixj} Input simulation values
i = 1 to 38 industries
j = 1 to 14 LMA's

SS_i Simulation values summed to state level
i = 1 to 38 industries

O_i Output employment conversion factor
i = 1 to 38 industries

IO_{ixi} Total requirements input output matrix
i = 21 to 38 industries

R_{ixk} Aggregation scheme
i = 1 to 38 industries
k = 1 to 28 industries

$BASE_{kxj}$ Base case employment
k = 1 to 28 industries
j = 1 to 14 LMA's

P_j Population multiplier
i = 1 to 14 LMA's

Z_{jxj} LMA service sector reallocation
j = 1 to 14

A - F Intermediate steps

MODEL STRUCTURE
(for one year)

$$SS_i = \sum_{j=1}^{14} S_{ij} \qquad i = 1 \text{ to } 38$$

$$A_i = O_i \times SS_i \qquad i = 1 \text{ to } 38$$

$$B_i = \sum_{j=1}^{38} IO_{ji} A_j \qquad i = 1 \text{ to } 38$$

$$C_i = B_i / O_i \qquad i = 1 \text{ to } 38$$

$$D_k = \sum_{i=1}^{38} C_i R_{ik} \qquad k = 1 \text{ to } 28$$

$$E_{kj} = D_k \times (\text{Base}_{kj} / \sum_{n=1}^{14} \text{Base}_{kn}) \qquad \begin{array}{l} j = 1 \text{ to } 14 \\ k = 2, 4, 5, 6, 8, 9, 10, 11, 12, 13, \\ \quad 14, 15, 16, 17, 18, 19, 20, 21 \end{array}$$

$$F_j = \sum_{k \neq 1, 3, 7, 22\text{-}28} E_{kj} \qquad j = 1 \text{ to } 14$$

$$E_{kj} = D_k \times \frac{F_j}{\sum_{r=1}^{14} Fr} \qquad \begin{array}{l} k = 1, 3, 7 \\ j = 1 \text{ to } 14 \end{array}$$

$$E_{kj} = \sum_{n=1}^{14} \left(D_k \times \frac{Fn}{\sum_{r=1}^{14} Fr}\right) Z_{nj} \qquad \begin{array}{l} k = 22 \text{ to } 26 \\ j = 1 \text{ to } 14 \end{array}$$

$$E_{28\,j} = .1119 \times \sum_{k=1}^{25} E_{kj} \qquad j = 1 \text{ to } 14$$

$$\text{Final employment}_{kj} = E_{kj} + \text{BASE}_{kj} \qquad \begin{array}{l} k = 1 \text{ to } 28 \\ j = 1 \text{ to } 14 \end{array}$$

$$\text{Total employment}_j = \sum_{k=1}^{28} \text{Final employment}_{kj} \qquad j = 1 \text{ to } 14$$

$$\text{Population} = P_j \times \text{Total employment}_j \qquad j = 1 \text{ to } 14$$

A P P E N D I X II

I/O Analysis

I.O. Sectors

1	Dairy
2	Livestock
3	Grains
4	Other Crops
5	Agricultural Services & Forestry
6	Copper
7	Coal
8	Petroleum & Natural Gas
9	Other Mining
10	Construction
11	Meat Processing
12	Dairy Processing
13	Grain Processing
14	Other Food Processing
15	Printing & Publishing
16	Chemicals
17	Logging and Saw Mills
18	Millwork & Other Finished Wood Products
19	Petroleum Refining
20	Primary Metals
21	Fabricated Metals
22	Stone, Clay and Glass
23	Other Manufacturing
24	Railroad
25	Motor Freight
26	Communications
27	Utilities
28	Wholesale Trade
29	Retail Trade
30	Finance Insurance & Real Estate
31	Personel Services
32	Business Services
33	Professional Services
34	Federal Enterprise
35	State Enterprises
36	Households

DERIVATION OF IO TABLE - SECONDARY PROCEDURE

Variables

N - National IO table - 484 X 484 sectors

$A^{(1)}_{484}$ - Aggregation vector - 484 to 206 sectors

W_{206} - Montana wages and salaries - 1972 at 3 digit level

$A^{(2)}$ _ Aggregate vector from 3 digit level to 206 sectors

$A^{(3)}$ _ Aggregation vector - 206 to 51 sectors

O - Montana output - 1972 for 51 sectors

Z - Identity matrix - 35 X 35

J - Transactions table for Montana

K - Direct requirements table

M - Total requirements matrix

C, D, E, F, G, H, I, L - are intermediate matrices

Q is the fraction of value added which is employee compensation

$$C_{ij} = \sum_{k:\, A^{(2)}_k = i} \; \sum_{l:\, A^{(2)}_L = j} W_{kl} \qquad i, j = 1, 206$$

$$D_{ij} = C_{ij} \Big/ \sum_{l=1}^{206} C_{lj} \qquad i = 1, 206$$

$$E_i = \sum_{k:\, A^{(2)}_k = i} W_k \qquad i = 1, 206$$

$$F_i = E_i / \Sigma_{k:\, A^{(3)}_{\bar{k}} = A^{(3)}_{i}} E_k$$

$$G_{ij} = \sum_{k:\, A^{(3)}_{\bar{k}} = i} \; \sum_{l:\, A^{(3)}_{l} = j} F_l \, D_{kl} \qquad \begin{matrix} i = 1 \text{ to } 45 \\ j = 1 \text{ to } 51 \end{matrix}$$

$$H_{ij} = O_j \; G_{ij} \qquad \begin{matrix} i = 1 \text{ to } 45 \\ j = 1 \text{ to } 51 \end{matrix}$$

$$I_i = \sum_{j=1}^{51} H_{ij}$$

for $i = 1$ to 36:

IF $I_i < O_i$: $J_{c49} = O_i - I_i$ and $J_{ij} = H_{ij}$ for $j = 1$ to 51, $j \neq 49$

IF $I_i > O_i$: $J_{ij} = H_{ij} \; \frac{O_i}{I_i}$ $\quad j = 1$ to 51

$$J_{37j} = \sum_{\substack{i:\, I_i > O_i \\ 1 < i < 36}} H_{ij} \left(1 - {}^{O_i}/_{I_i}\right) \qquad j = 1 \text{ to } 51$$

$$J_{ij} = H_{ij} \qquad \begin{matrix} i = 38 \text{ to } 45 \\ j = 1 \text{ to } 51 \end{matrix}$$

$$K_{ij} = J_{ij} \Big/ \sum_{l=1}^{45} J_{li}$$

$$L_{cj} = K_{ij} \qquad \begin{matrix} \text{for } i = 1 \text{ to } 38 \\ \text{for } j = 1 \text{ to } 35 \end{matrix}$$

$$L_{36j} = Q_j \; J_{45j} \qquad \text{for } j = 1 \text{ to } 35$$

$$L_{i36} = J_{146} \qquad \text{for } i = 1 \text{ to } 35$$

$$M = (Z - L)^{-1}$$

SECTOR 1 DAIRY

	REQUIREMENTS			SALES	
	TRANSACTIONS	DIRECT	TOTAL	TRANSACTIONS	FRACTION
DAIRY	0.0	0.0	1.00507	0.0	0.0
LIVESTOCK	0.0	0.0	0.04095	1.31	0.08922
GRAINS	5.54	0.31146	0.36211	2.23	0.15183
OTHER CROPS	0.00	0.00001	0.02076	0.79	0.05359
AG SERVICE,FORES	0.10	0.00586	0.01317	0.00	0.00000
COPPER	0.0	0.0	0.00276	0.0	0.0
COAL	0.0	0.0	0.00170	0.0	0.0
PETROLM NAT. GAS	0.0	0.0	0.01337	0.0	0.0
OTHER MINING	0.00	0.00003	0.00377	0.0	0.0
CONSTRUCTION	0.14	0.00769	0.01904	0.0	0.0
MEAT PROCESS	0.0	0.0	0.01392	0.0	0.0
DAIRY PROCESS	0.0	0.0	0.00852	10.08	0.68567
GRAIN PROCESS	1.74	0.09761	0.11882	0.0	0.0
OTHER FOOD PROC	0.14	0.00805	0.02968	0.0	0.0
PRINT,PUBLISH	0.00	0.00009	0.00230	0.0	0.0
CHEMICALS	0.02	0.00102	0.01581	0.0	0.0
LOG AND SAW	0.0	0.0	0.00439	0.0	0.0
MILLWORK,OTHER	0.00	0.00009	0.00497	0.0	0.0
PETR.REFINE	0.08	0.00457	0.03091	0.0	0.0
PRIMARY METAL	0.00	0.00005	0.00570	0.0	0.0
FABRIC METAL	0.02	0.00104	0.00270	0.0	0.0
STONE,CLAY,GLA	0.01	0.00073	0.00431	0.0	0.0
OTHER MANUFAC.	0.02	0.00134	0.02484	0.0	0.0
RAILROAD TRANS	0.10	0.00581	0.01655	0.0	0.0
MOTOR FREIGHT	0.48	0.02683	0.05113	0.0	0.0
COMMUNICATIONS	0.06	0.00326	0.01699	0.0	0.0
UTILITIES	0.09	0.00491	0.03511	0.0	0.0
WHOLESALE TRADE	0.25	0.01406	0.05063	0.0	0.0
RETAIL TRADE	0.28	0.01584	0.08140	0.0	0.0
FIRE	0.49	0.02771	0.18228	0.0	0.0
PERSONAL SERVICE	0.13	0.00717	0.02757	0.0	0.0
BUSINESS,PROFIS	0.06	0.00316	0.03640	0.0	0.0
RECREAT.SERVICE	0.16	0.00887	0.03634	0.0	0.0
FED.ENTER.	0.00	0.00006	0.00314	0.0	0.0
STATE LOC ENTER	0.00	0.00003	0.00063	0.0	0.0
DIRECT IMPORT	0.0	0.0	0.0	0.0	0.0
TRANSFER IMPORTS	0.74	0.04130	0.0	0.0	0.0
DUMMY 1	0.03	0.00165	0.00983	0.0	0.0
DUMMY 2	0.00	0.00003	0.00280	0.0	0.0
DUMMY 3	0.0	0.0	0.0	0.0	0.0
GOV INDUSTRY	0.0	0.0	0.0	0.0	0.0
DUST OR WASTE	0.0	0.0	0.0	0.0	0.0
HOUSEHOLD INDUST	0.0	0.0	0.0	0.0	0.0
INVENTORY VAL	0.0	0.0	0.0	0.0	0.0
VALUE ADDED	7.11	0.39967	0.20561	0.0	0.0
IMPORTS EXP.				1.26	0.01935
CAPITAL EQPT				0.0	0.0
INVENTORY CHANGE				0.00	0.00034
EXPORTS				0.0	0.0
FED GOV				0.0	0.0
STATE AND LOCAL				0.0	0.0
OUTPUT	17.80				

SECTOR 2 LIVESTOCK

	REQUIREMENTS			SALES	
	TRANSACTIONS	DIRECT	TOTAL	TRANSACTIONS	FRACTION
DAIRY	1.31	0.00283	0.00773	0.0	0.0
LIVESTOCK	98.72	0.21298	1.29899	98.72	0.22580
GRAINS	23.74	0.05122	0.08098	18.79	0.04299
OTHER CROPS	136.14	0.29371	0.39257	4.52	0.01035
AG SERVICE,FORES	1.10	0.00236	0.01683	0.00	0.00000
COPPER	0.0	0.0	0.00062	0.0	0.0
COAL	0.0	0.0	0.00154	0.0	0.0
PETROLM NAT. GAS	0.0	0.0	0.01372	0.0	0.0
OTHER MINING	0.01	0.00003	0.00491	0.0	0.0
CONSTRUCTION	2.38	0.00513	0.01471	0.0	0.0
MEAT PROCESS	0.0	0.0	0.01172	56.87	0.13007
DAIRY PROCESS	0.0	0.0	0.00665	0.01	0.00002
GRAIN PROCESS	3.54	0.00763	0.02185	0.0	0.0
OTHER FOOD PROC	0.40	0.00087	0.01365	0.01	0.00003
PRINT,PUBLISH	0.03	0.00006	0.00191	0.0	0.0
CHEMICALS	0.47	0.00102	0.02143	0.00	0.00000
LOG AND SAW	0.0	0.0	0.00376	0.0	0.0
MILLWORK,OTHER	0.04	0.00009	0.00468	0.0	0.0
PETR.REFINE	2.31	0.00498	0.03205	0.0	0.0
PRIMARY METAL	0.02	0.00004	0.00466	0.0	0.0
FABRIC METAL	0.09	0.00019	0.00148	0.0	0.0
STONE,CLAY,GLA	0.05	0.00011	0.00347	0.0	0.0
OTHER MANUFAC.	0.40	0.00087	0.02020	0.17	0.00038
RAILROAD TRANS	2.31	0.00497	0.01472	0.0	0.0
MOTOR FREIGHT	5.12	0.01104	0.03276	0.0	0.0
COMMUNICATIONS	1.07	0.00230	0.01469	0.0	0.0
UTILITIES	1.07	0.00230	0.03416	0.0	0.0
WHOLESALE TRADE	8.49	0.01831	0.05356	0.0	0.0
RETAIL TRADE	5.35	0.01154	0.07417	0.0	0.0
FIRE	10.38	0.02240	0.15984	0.0	0.0
PERSONAL SERVICE	0.11	0.00024	0.01741	0.03	0.00007
BUSINESS,REPAIR	1.29	0.00278	0.02998	0.0	0.0
PROFESS.SERVICE	1.70	0.00367	0.02852	0.0	0.0
FED.ENTER.	0.02	0.00003	0.00269	0.0	0.0
STATE LOC ENTER	0.01	0.00003	0.00053	0.0	0.0
DIRECT IMPORT	0.0	0.0	0.0	0.0	0.0
TRANSFER IMPORTS	39.98	0.08626	0.0	0.0	0.0
DUMMY 1	0.34	0.00074	0.00785	0.0	0.0
DUMMY 2	0.01	0.00003	0.00249	0.0	0.0
DUMMY 3	0.0	0.0	0.0	0.0	0.0
GOV INDUSTRY	0.0	0.0	0.0	0.0	0.0
REST OF WORLD	0.0	0.0	0.0	0.0	0.0
HOUSEHOLD INDUST	0.0	0.0	0.0	0.0	0.0
INVENTORY VAL	0.0	0.0	0.0	0.0	0.0
VALUE ADDED	117.44	0.25339	0.26417	0.0	0.0
CONSUMPTION EXP.				0.48	0.00109
CAPITAL EXP				0.0	0.0
INVENTORY CHANGE				2.98	0.00683
EXPORTS				254.58	0.58231
FED GOV				0.03	0.00006
STATE AND LOCAL				0.01	0.00001
OUTPUT	463.50				

SECTOR 3 GRAINS

	REQUIREMENTS			SALES	
	TRANSACTIONS	DIRECT	TOTAL	TRANSACTIONS	FRACTION
DAIRY	2.23	0.00791	0.01038	5.54	0.02105
LIVESTOCK	18.79	0.06660	0.09871	23.74	0.09013
GRAINS	10.65	0.03775	1.05004	10.65	0.04045
OTHER CROPS	1.70	0.00602	0.04109	1.12	0.00425
AG SERVICE,FORES	4.53	0.01605	0.01909	0.0	0.0
COPPER	0.0	0.0	0.00079	0.0	0.0
COAL	0.0	0.0	0.00160	0.0	0.0
PETROLM NAT. GAS	0.0	0.0	0.01907	0.0	0.0
OTHER MINING	1.40	0.00498	0.00783	0.0	0.0
CONSTRUCTION	3.11	0.01104	0.01936	0.0	0.0
MEAT PROCESS	0.0	0.0	0.01226	0.02	0.00006
DAIRY PROCESS	0.0	0.0	0.00680	0.0	0.0
GRAIN PROCESS	0.0	0.0	0.00585	10.94	0.04152
OTHER FOOD PROC	0.0	0.0	0.01157	0.34	0.00130
PRINT,PUBLISH	0.03	0.00010	0.00230	0.0	0.0
CHEMICALS	7.07	0.02504	0.03324	0.00	0.00001
LOG AND SAW	0.0	0.0	0.00437	0.0	0.0
MILLWORK,OTHER	0.03	0.00010	0.00469	0.0	0.0
PETR.REFINE	8.38	0.02971	0.04683	0.0	0.0
PRIMARY METAL	0.01	0.00004	0.00592	0.0	0.0
FABRIC METAL	0.09	0.00030	0.00182	0.0	0.0
STONE,CLAY,GLA	0.13	0.00047	0.00377	0.0	0.0
OTHER MANUFAC.	1.66	0.00590	0.02549	0.0	0.0
RAILROAD TRANS	1.57	0.00555	0.01186	0.0	0.0
MOTOR FREIGHT	2.06	0.00729	0.02491	0.0	0.0
COMMUNICATIONS	0.76	0.00268	0.01541	0.0	0.0
UTILITIES	1.92	0.00680	0.03379	0.0	0.0
WHOLESALE TRADE	6.21	0.02200	0.04670	0.0	0.0
RETAIL TRADE	4.97	0.01760	0.07348	0.0	0.0
FIRE	31.01	0.10988	0.23415	0.0	0.0
PERSONAL SERVICE	0.11	0.00038	0.01875	0.19	0.00073
BUSINESS,REPAIR	7.18	0.02543	0.04997	0.0	0.0
PROFESS.SERVICE	0.41	0.00144	0.02752	0.0	0.0
FED.ENTER.	0.01	0.00005	0.00357	0.05	0.00020
STATE LOC ENTER	0.0	0.0	0.00052	0.0	0.0
DIRECT IMPORT	0.0	0.0	0.0	0.0	0.0
TRANSFER IMPORTS	37.35	0.13235	0.0	0.0	0.0
DUMMY 1	0.32	0.00115	0.00894	0.0	0.0
DUMMY 2	0.01	0.00003	0.00318	0.0	0.0
DUMMY 3	0.0	0.0	0.0	0.0	0.0
GOV INDUSTRY	0.0	0.0	0.0	0.0	0.0
REST OF WORLD	0.0	0.0	0.0	0.0	0.0
HOUSEHOLD INDUST	0.0	0.0	0.0	0.0	0.0
INVENTORY VAL	0.0	0.0	0.0	0.0	0.0
VALUE ADDED	128.50	0.45536	0.27547	0.0	0.0
CONSUMPTION EXP.				0.73	0.00277
CAPITAL FORM				0.0	0.0
INVENTORY CHANGE				11.14	0.04231
EXPORTS				201.63	0.76551
FED GOV				-2.76	-0.01047
STATE AND LOCAL				0.05	0.00018
OUTPUT	282.2?				

SECTOR 4 OTHER CROPS

	REQUIREMENTS			SALES	
	TRANSACTIONS	DIRECT	TOTAL	TRANSACTIONS	FRACTION
DAIRY	0.79	0.00470	0.00670	0.00	0.00000
LIVESTOCK	4.52	0.02699	0.04506	136.14	0.86776
GRAINS	1.12	0.00668	0.01810	1.70	0.01084
OTHER CROPS	2.38	0.01418	1.03402	2.38	0.01515
AG SERVICS,FORES	5.02	0.02994	0.03208	0.71	0.00455
COPPER	0.0	0.0	0.00070	0.0	0.0
COAL	0.01	0.00004	0.00206	0.0	0.0
PETROLM NAT. GAS	0.0	0.0	0.01782	0.0	0.0
OTHER MINING	1.19	0.00706	0.00997	0.0	0.0
CONSTRUCTION	0.44	0.00265	0.00982	0.00	0.00020
MEAT PROCSS	0.0	0.0	0.01170	7.51	0.04787
DAIRY PROCESS	0.0	0.0	0.00666	0.11	0.00072
GRAIN PROCESS	2.34	0.01398	0.02134	0.05	0.00029
OTHER FOOD PROC	0.15	0.00090	0.01321	3.77	0.02405
PRINT,PUBLISH	0.00	0.00002	0.00186	0.0	0.0
CHEMICALS	5.88	0.03510	0.04277	0.07	0.00042
LOG AND SAW	0.0	0.0	0.00397	0.0	0.0
MILLWORK,OTHER	0.18	0.00106	0.00527	0.0	0.0
PETR.REFINE	4.47	0.02665	0.04142	0.0	0.0
PRIMARY METAL	0.00	0.00000	0.00521	0.0	0.0
FABRIC METAL	0.02	0.00015	0.00139	0.0	0.0
STONE,CLAY,GLA	0.28	0.00166	0.00427	0.0	0.0
OTHER MANUFAC.	0.58	0.00344	0.02177	0.07	0.00044
RAILROAD TRANS	1.08	0.00645	0.01268	0.01	0.00005
MOTOR FREIGHT	1.05	0.00628	0.02195	0.01	0.00003
COMMUNICATIONS	0.33	0.00195	0.01281	0.0	0.0
UTILITIES	2.94	0.01752	0.04566	0.0	0.0
WHOLESALE TRADE	3.47	0.02068	0.04273	0.0	0.0
RETAIL TRADE	3.23	0.01929	0.07096	0.0	0.0
FIRE	10.36	0.06181	0.16736	0.01	0.00007
PERSONAL SERVICE	0.01	0.00007	0.01705	0.0	0.0
BUSINESS,REPAIR	2.36	0.01407	0.03420	0.0	0.0
PROFESS.SERVICE	0.21	0.00125	0.02462	0.24	0.00155
FED.ENTER.	0.00	0.00001	0.00274	0.70	0.00449
STATE LOC ENTER	0.00	0.00000	0.00048	0.00	0.00001
DIRECT IMPORT	0.0	0.0	0.0	0.0	0.0
TRANSFER IMPORTS	24.34	0.14521	0.0	0.0	0.0
DUMMY 1	0.13	0.00075	0.00736	0.20	0.00126
DUMMY 2	0.00	0.00000	0.00242	0.0	0.0
DUMMY 3	0.0	0.0	0.0	0.0	0.0
GOV INDUSTRY	0.0	0.0	0.0	0.0	0.0
REST OF WORLD	0.0	0.0	0.0	0.0	0.0
HOUSEHOLD INDUST	0.0	0.0	0.0	0.0	0.0
INVENTORY VAL	0.0	0.0	0.0	0.0	0.0
VALUE ADDED	88.73	0.52944	0.26627	0.0	0.0
CONSUMPTION EXP.				12.21	0.07795
CAPITAL FORM				0.0	0.0
INVENTORY CHANGE				0.27	0.00172
EXPORTS				0.0	0.0
FED GOV				-9.49	-0.06050
STATE AND LOCAL				0.19	0.00118
OUTPUT	167.60				

SECTOR 5 AG SERVICE,FORES

	REQUIREMENTS			SALES	
	TRANSACTIONS	DIRECT	TOTAL	TRANSACTIONS	FRACTION
DAIRY	0.00	0.00000	0.00503	0.10	0.00499
LIVESTOCK	0.00	0.00001	0.01673	1.10	0.05237
GRAINS	0.0	0.0	0.01043	4.58	0.21662
OTHER CROPS	0.71	0.06606	0.07860	5.02	0.24000
AG SERVICE,FORES	0.02	0.00203	1.00563	0.02	0.00105
COPPER	0.0	0.0	0.00080	0.0	0.0
COAL	0.00	0.00018	0.00176	0.0	0.0
PETROLM NAT. GAS	0.0	0.0	0.00903	0.0	0.0
OTHER MINING	0.00	0.00000	0.00192	0.0	0.0
CONSTRUCTION	0.00	0.00000	0.00626	0.55	0.02638
MEAT PROCESS	0.0	0.0	0.01905	0.0	0.0
DAIRY PROCESS	0.0	0.0	0.01074	0.0	0.0
GRAIN PROCESS	0.19	0.01754	0.02665	0.0	0.0
OTHER FOOD PROC	0.02	0.00143	0.02046	0.04	0.00201
PRINT,PUBLISH	0.00	0.00003	0.00245	0.0	0.0
CHEMICALS	0.03	0.00281	0.01060	0.00	0.00004
LOG AND SAW	0.0	0.0	0.00885	8.30	0.39669
MILLWORK,OTHER	0.06	0.00585	0.01290	0.0	0.0
PETR.REFINE	0.03	0.00232	0.01972	0.0	0.0
PRIMARY METAL	0.00	0.00000	0.00601	0.0	0.0
FABRIC METAL	0.01	0.00116	0.00239	0.0	0.0
STONE,CLAY,GLA	0.00	0.00009	0.00264	0.0	0.0
OTHER MANUFAC.	0.27	0.02470	0.05022	0.01	0.00066
RAILROAD TRANS	0.04	0.00355	0.01061	0.02	0.00077
MOTOR FREIGHT	0.08	0.00761	0.02684	0.00	0.00011
COMMUNICATIONS	0.00	0.00000	0.01376	0.0	0.0
UTILITIES	0.01	0.00102	0.03094	0.0	0.0
WHOLESALE TRADE	0.08	0.00722	0.03712	0.22	0.01070
RETAIL TRADE	0.04	0.00364	0.08408	0.03	0.00143
FIRE	0.39	0.03584	0.17192	0.06	0.00284
PERSONAL SERVICE	0.00	0.00000	0.02624	0.04	0.00205
BUSINESS,REPAIR	0.00	0.00018	0.02260	0.0	0.0
PROFESS.SERVICE	0.00	0.00000	0.03359	0.0	0.0
FED.ENTER.	0.00	0.00006	0.00302	0.0	0.0
STATE LOC ENTER	0.0	0.0	0.00068	0.01	0.00024
DIRECT IMPORT	0.18	0.01676	0.0	0.0	0.0
TRANSFER IMPORTS	0.99	0.09151	0.0	0.0	0.0
DUMMY 1	0.07	0.00608	0.01267	0.00	0.00000
DUMMY 2	0.00	0.00023	0.00267	0.0	0.0
DUMMY 3	0.0	0.0	0.0	0.0	0.0
GOV INDUSTRY	0.0	0.0	0.0	0.0	0.0
REST OF WORLD	0.0	0.0	0.0	0.0	0.0
HOUSEHOLD INDUST	0.0	0.0	0.0	0.0	0.0
INVENTORY VAL	0.0	0.0	0.0	0.0	0.0
VALUE ADDED	7.58	0.70209	0.43279	0.0	0.0
CONSUMPTION EXP.				2.19	0.10462
CAPITAL EXP.				0.0	0.0
INVENTORY CHANGE				0.00	0.00000
EXPORTS				0.0	0.0
FED GOV				-1.66	-0.07939
STATE AND LOCAL				0.33	0.01582
OUTPUT	10.80				

SECTOR 4 COPPER

	REQUIREMENTS			SALES	
	TRANSACTIONS	DIRECT	TOTAL	TRANSACTIONS	FRACTION
DAIRY	0.0	0.0	0.00445	0.0	0.0
LIVESTOCK	0.0	0.0	0.02319	0.0	0.0
GRAINS	0.0	0.0	0.00580	0.0	0.0
OTHER FOODS	0.0	0.0	0.01732	0.0	0.0
AG, SERVICE,FORES	0.0	0.0	0.00285	0.0	0.0
COPPER	20.12	0.16757	1.21184	20.12	0.17545
COAL	0.05	0.00044	0.00508	0.0	0.0
PETROLM NAT. GAS	0.0	0.0	0.01789	0.0	0.0
OTHER MINING	1.78	0.01484	0.02867	0.03	0.00028
CONSTRUCTION	0.93	0.00772	0.02144	0.0	0.0
MEAT PROCESS	0.0	0.0	0.03206	0.0	0.0
DAIRY PROCESS	0.0	0.0	0.01806	0.0	0.0
GRAIN PROCESS	0.0	0.0	0.00838	0.0	0.0
OTHER FOOD PROC	0.0	0.0	0.02946	0.0	0.0
PRINT,PUBLISH	0.01	0.00005	0.00413	0.0	0.0
CHEMICALS	1.50	0.01245	0.02462	0.0	0.0
LOG AND SAW	1.02	0.00847	0.02585	0.0	0.0
MILLWORK,OTHER	0.0	0.0	0.01052	0.0	0.0
PETR.REFINE	0.47	0.00394	0.03212	0.0	0.0
PRIMARY METAL	4.66	0.03883	0.07948	46.50	0.42285
FABRIC METAL	0.05	0.00039	0.00263	0.0	0.0
STONE,CLAY,GLA	0.38	0.00316	0.00916	0.0	0.0
OTHER MANUFAC.	2.46	0.02046	0.06778	0.0	0.0
RAILROAD TRANS	0.84	0.00701	0.02077	0.0	0.0
MOTOR FREIGHT	0.37	0.00305	0.03306	0.0	0.0
COMMUNICATIONS	0.40	0.00336	0.02719	0.0	0.0
UTILITIES	3.91	0.03255	0.10380	0.0	0.0
WHOLESALE TRADE	1.19	0.00987	0.05976	0.0	0.0
RETAIL TRADE	0.25	0.00204	0.13807	0.0	0.0
FIRE	5.05	0.04208	0.27518	0.0	0.0
PERSONAL SERVICE	0.12	0.00097	0.04525	0.0	0.0
BUSINESS,REPAIR	0.80	0.00664	0.04859	0.0	0.0
PROFESS.SERVICE	0.63	0.00526	0.06413	0.0	0.0
FED.ENTER.	0.06	0.00053	0.00559	0.0	0.0
STATE LOC ENTER	0.0	0.0	0.00115	0.0	0.0
DIRECT IMPORT	0.0	0.0	0.0	0.0	0.0
TRANSFER IMPORTS	11.43	0.09514	0.0	0.0	0.0
DUMMY 1	0.56	0.00467	0.01688	0.0	0.0
DUMMY 2	0.05	0.00044	0.00458	0.0	0.0
DUMMY 3	0.53	0.00438	0.0	0.0	0.0
GOV INDUSTRY	0.0	0.0	0.0	0.0	0.0
REST OF WORLD	0.0	0.0	0.0	0.0	0.0
HOUSEHOLD INDUST	0.0	0.0	0.0	0.0	0.0
INVENTORY VAL	0.0	0.0	0.0	0.0	0.0
VALUE ADDED	60.50	0.50372	0.74457	0.0	0.0
CONSUMPTION EXP.				0.0	0.0
CAPITAL FORM				0.0	0.0
INVENTORY CHANGE				0.77	0.00671
EXPORTS				45.27	0.39469
FED GOV				0.00	0.00000
STATE AND LOCAL				0.0	0.0
OUTPUT	120.10				

SECTOR 3 PETROLM NAT. GAS

	REQUIREMENTS			SALES	
	TRANSACTIONS	DIRECT	TOTAL	TRANSACTIONS	FRACTION
DAIRY	0.0	0.0	0.00135	0.0	0.0
LIVESTOCK	0.0	0.0	0.00751	0.0	0.0
GRAINS	0.0	0.0	0.00179	0.0	0.0
OTHER CROPS	0.0	0.0	0.00551	0.0	0.0
AG SERVICE,FORES	0.0	0.0	0.00080	0.0	0.0
COPPER	0.0	0.0	0.00253	0.0	0.0
COAL	0.00	0.00002	0.00156	0.00	0.00005
PETROLM NAT. GAS	1.31	0.02141	1.02815	2.31	0.02328
OTHER MINING	0.0	0.0	0.00335	0.0	0.0
CONSTRUCTION	2.79	0.02582	0.03243	0.0	0.0
MEAT PROCESS	0.0	0.0	0.01041	0.0	0.0
DAIRY PROCESS	0.0	0.0	0.00548	0.0	0.0
GRAIN PROCESS	0.0	0.0	0.00253	0.0	0.0
OTHER FOOD PROC	0.0	0.0	0.00892	0.0	0.0
PRINT,PUBLISH	0.00	0.00001	0.00219	0.0	0.0
CHEMICALS	0.30	0.00282	0.00599	0.02	0.00018
LOG AND SAW	0.0	0.0	0.00467	0.0	0.0
MILLWORK,OTHER	0.0	0.0	0.00428	0.0	0.0
PETR.REFINE	0.25	0.00229	0.01180	83.07	0.83644
PRIMARY METAL	0.94	0.00871	0.01907	0.0	0.0
FABRIC METAL	0.15	0.00142	0.00275	0.0	0.0
STONE,CLAY,GLA	0.61	0.00568	0.01019	0.0	0.0
OTHER MANUFAC.	1.18	0.01093	0.02612	0.0	0.0
RAILROAD TRANS	0.18	0.00169	0.00626	0.0	0.0
MOTOR FREIGHT	0.18	0.00170	0.01467	0.08	0.00091
COMMUNICATIONS	0.10	0.00090	0.01173	0.0	0.0
UTILITIES	1.13	0.01043	0.03318	12.37	0.12455
WHOLESALE TRADE	0.48	0.00442	0.02115	0.0	0.0
RETAIL TRADE	0.43	0.00395	0.04692	0.0	0.0
FIRE	18.80	0.17407	0.27804	0.0	0.0
PERSONAL SERVICE	0.03	0.00030	0.01643	0.0	0.0
BUSINESS,REPAIR	0.59	0.00549	0.02620	0.0	0.0
PROFESS.SERVICE	0.82	0.00759	0.02972	0.0	0.0
FED.ENTER.	0.02	0.00021	0.00382	0.0	0.0
STATE LOC ENTER	0.0	0.0	0.00041	0.0	0.0
DIRECT IMPORT	0.0	0.0	0.0	0.0	0.0
TRANSFER IMPORTS	7.57	0.07009	0.0	0.0	0.0
DUMMY 1	0.68	0.00631	0.01312	0.0	0.0
DUMMY 2	0.05	0.00045	0.00375	0.0	0.0
DUMMY 3	0.66	0.00627	0.0	0.0	0.0
GOV INDUSTRY	0.0	0.0	0.0	0.0	0.0
REST OF PUBLIC	0.0	0.0	0.0	0.0	0.0
HOUSEHOLD INDUST	0.0	0.0	0.0	0.0	0.0
INVENTORY VAL	0.0	0.0	0.0	0.0	0.0
VALUE ADDED	67.72	0.62701	0.21535	0.0	0.0
CONSUMPTION EXP.				0.0	0.0
CAPITAL EXP.				0.0	0.0
INVENTORY CHANGE				1.4[illegible]	[illegible]
EXPORTS				0.0	0.0
FED GOV				0.0	0.0
STATE AND LOCAL				0.0	0.0

OUTPUT 100.00

SECTOR [illegible] OTHER STATES

	REQUIREMENTS			SALES	
	TRANSACTIONS	DIRECT	TOTAL	TRANSACTIONS	FRACTION
DAIRY	0.0	0.0	0.00341	0.00	0.00001
LIVESTOCK	0.0	0.0	0.01786	0.01	0.00023
GRAINS	0.0	0.0	0.00444	1.40	0.02436
OTHER CROPS	0.0	0.0	0.01327	1.19	0.02060
AG SERVICES,FORES	0.0	0.0	0.00180	0.00	0.00000
COPPER	0.03	0.00057	0.00714	1.78	0.03091
COAL	0.08	0.00127	0.00535	0.01	0.00018
PETROLM MIT. GAS	0.0	0.0	0.02186	0.0	0.0
OTHER MINING	2.52	0.04420	1.05241	2.50	0.04363
CONSTRUCTION	0.40	0.00701	0.01738	3.35	0.05805
MEAT PROCESS	0.0	0.0	0.02469	0.01	0.00023
DAIRY PROCESS	0.0	0.0	0.01382	0.0	0.0
GRAIN PROCESS	0.0	0.0	0.00638	0.03	0.00060
OTHER FOOD PROC	0.0	0.0	0.02255	0.00	0.00000
PAINT,PUBLISH	0.00	0.00002	0.00326	0.0	0.0
CHEMICALS	0.41	0.00725	0.01473	0.64	0.01114
LOG AND SAW	0.05	0.00087	0.00948	0.0	0.0
MILLWORK,OTHER	0.0	0.0	0.00803	0.0	0.0
PETR.REFINE	1.26	0.02206	0.04527	0.01	0.00019
PRIMARY METAL	1.48	0.02610	0.04852	42.00	0.72848
FABRIC METAL	0.07	0.00128	0.00314	0.00	0.00004
STONE,CLAY,GLA	0.06	0.00110	0.00521	3.40	0.05894
OTHER MANUFAC.	1.11	0.01943	0.05385	0.33	0.00578
RAILROAD TRANS	0.31	0.00527	0.01478	0.00	0.00005
MOTOR FREIGHT	0.19	0.00337	0.02760	0.01	0.00011
COMMUNICATIONS	0.07	0.00126	0.01970	0.0	0.0
UTILITIES	2.13	0.03758	0.05037	0.0	0.0
WHOLESALE TRADE	0.70	0.01233	0.04986	0.0	0.0
RETAIL TRADE	0.30	0.00527	0.10974	0.0	0.0
FIRE	3.05	0.05369	0.23386	0.01	0.00015
PERSONAL SERVICE	0.02	0.00040	0.02445	0.0	0.0
BUSINESS,REPAIR	1.16	0.02017	0.04975	0.0	0.0
PROFESS.SERVICE	0.19	0.00342	0.04844	0.0	0.0
FED.ENTER.	0.02	0.00037	0.00453	0.0	0.0
STATE LOC ENTER	0.0	0.0	0.00089	0.01	0.00019
DIRECT IMPORT	0.0	0.0	0.0	0.0	0.0
TRANSFER IMPORTS	5.56	0.09812	0.0	0.0	0.0
DUMMY 1	0.30	0.00523	0.01465	0.0	0.0
DUMMY 2	0.03	0.00045	0.00388	0.0	0.0
DUMMY 3	0.08	0.00141	0.0	0.0	0.0
GOV INDUSTRY	0.0	0.0	0.0	0.0	0.0
REST OF WORLD	0.0	0.0	0.0	0.0	0.0
HOUSEHOLD INDUST	0.0	0.0	0.0	0.0	0.0
INVENTORY VAL	0.0	0.0	0.0	0.0	0.0
VALUE ADDED	36.31	0.62050	0.56816	0.0	0.0
CONSUMPTION [illegible]				[illegible]	0.00036
CAPITAL FORM				0.0	0.0
INVENTORY CHANGE				0.37	0.00645
EXPORTS				0.0	0.0
FED GOV				0.65	0.01119
STATE AND LOCAL				-0.11	-0.00185
OUTPUT	56.90				

SECTOR 12 CONSTRUCTION

	REQUIREMENTS			SALES	
	TRANSACTIONS	DIRECT	TOTAL	TRANSACTIONS	FRACTION
DAIRY	0.0	0.0	0.00463	0.14	0.00034
LIVESTOCK	0.0	0.0	0.02423	2.38	0.00597
GRAINS	0.0	0.0	0.00603	3.11	0.00782
OTHER CROPS	0.03	0.00008	0.01821	0.44	0.00112
AG SERVICE,FORES	0.55	0.00138	0.00520	0.00	0.00000
COPPER	0.0	0.0	0.01052	0.93	0.00233
COAL	0.0	0.0	0.00395	0.09	0.00023
PETROLM NAT. GAS	0.0	0.0	0.02211	2.79	0.00700
OTHER MINING	0.35	0.00840	0.02435	0.40	0.00100
CONSTRUCTION	0.09	0.00021	1.01302	0.09	0.00021
MEAT PROCESS	0.0	0.0	0.03350	0.13	0.00032
DAIRY PROCESS	0.0	0.0	0.01877	0.09	0.00022
GRAIN PROCESS	0.0	0.0	0.00871	0.09	0.00023
OTHER FOOD PROC	0.0	0.0	0.03056	0.18	0.00046
PRINT,PUBLISH	0.00	0.00001	0.00413	0.11	0.00029
CHEMICALS	1.69	0.00425	0.01436	0.16	0.00039
LOG AND SAW	6.87	0.01725	0.04937	0.93	0.00234
MILLWORK,OTHER	14.45	0.03627	0.05242	0.37	0.00092
PETR.REFINE	7.81	0.01960	0.05052	2.62	0.00657
PRIMARY METAL	15.88	0.03986	0.07924	1.91	0.00479
FABRIC METAL	7.52	0.01887	0.02152	0.04	0.00009
STONE,CLAY,GLA	25.85	0.06489	0.07960	0.43	0.00109
OTHER MANUFAC.	7.21	0.01809	0.06430	1.00	0.00252
RAILROAD TRANS	3.57	0.00896	0.02450	11.57	0.02904
MOTOR FREIGHT	5.66	0.01422	0.05116	0.49	0.00122
COMMUNICATIONS	1.31	0.00328	0.02820	1.96	0.00491
UTILITIES	0.28	0.00071	0.06221	5.73	0.01439
WHOLESALE TRADE	12.14	0.03046	0.08382	0.19	0.00049
RETAIL TRADE	16.29	0.04089	0.18185	1.71	0.00430
FIRE	4.99	0.01251	0.24830	5.30	0.01330
PERSONAL SERVICE	0.28	0.00069	0.04702	1.70	0.00427
BUSINESS,REPAIR	4.76	0.01194	0.05097	0.42	0.00105
PROFESS.SERVICE	10.22	0.02566	0.08598	1.39	0.00349
FED.ENTER.	0.06	0.00014	0.00505	0.11	0.00026
STATE LOC ENTER	0.08	0.00019	0.00143	3.82	0.00958
DIRECT IMPORT	0.39	0.00098	0.0	0.0	0.0
TRANSFER IMPORTS	68.43	0.17177	0.0	0.0	0.0
DUMMY 1	2.68	0.00672	0.01970	0.0	0.0
DUMMY 2	0.12	0.00029	0.00440	0.0	0.0
DUMMY 3	0.06	0.00014	0.0	0.0	0.0
GOV INDUSTRY	0.0	0.0	0.0	0.0	0.0
REST OF WORLD	0.0	0.0	0.0	0.0	0.0
HOUSEHOLD INDUST	0.0	0.0	0.0	0.0	0.0
INVENTORY WDL	0.0	0.0	0.0	0.0	0.0
VALUE ADDED	171.81	0.44128	0.76796	0.0	0.0
CONSUMPTION EXP.				0.0	0.0
CAPITAL EXPN				139.09	0.39176
INVENTORY CHANGE				0.0	0.0
EXPORTS				0.0	0.0
FED GOV				44.15	0.11061
STATE AND LOCAL				145.35	0.36484
OUTPUT	394.40				

SECTOR 11 MEAT PROCESS

	REQUIREMENTS			SALES	
	TRANSACTIONS	DIRECT	TOTAL	TRANSACTIONS	FRACTION
DAIRY	0.0	0.0	0.00642	0.0	0.0
LIVESTOCK	56.87	0.53395	0.79191	0.0	0.0
GRAINS	0.02	0.00015	0.05183	0.0	0.0
OTHER CROPS	7.61	0.07052	0.22305	0.0	0.0
AG SERVICE,FORES	0.0	0.0	0.01330	0.0	0.0
COPPER	0.0	0.0	0.00088	0.0	0.0
COAL	0.04	0.00037	0.00248	0.0	0.0
PETROLM NAT. GAS	0.0	0.0	0.01423	0.0	0.0
OTHER MINING	0.01	0.00013	0.00461	0.0	0.0
CONSTRUCTION	0.13	0.00119	0.01356	0.0	0.0
MEAT PROCESS	12.11	0.11375	1.14418	12.11	0.10927
DAIRY PROCESS	0.06	0.00053	0.00958	0.0	0.0
GRAIN PROCESS	0.0	0.0	0.01695	0.04	0.00040
OTHER FOOD PROC	0.09	0.00086	0.01746	0.50	0.00449
PRINT,PUBLISH	0.20	0.00191	0.00452	0.0	0.0
CHEMICALS	0.22	0.00208	0.02086	0.00	0.00004
LOG AND SAW	0.0	0.0	0.00599	0.0	0.0
MILLWORK,OTHER	0.11	0.00108	0.00726	0.0	0.0
PETR.REFINE	0.12	0.00114	0.03163	0.01	0.00011
PRIMARY METAL	0.01	0.00009	0.00659	0.0	0.0
FABRIC METAL	0.13	0.00124	0.00299	0.0	0.0
STONE,CLAY,GLA	0.02	0.00017	0.00385	0.0	0.0
OTHER MANUFAC.	1.03	0.00969	0.03589	0.48	0.00432
RAILROAD TRANS	0.30	0.00281	0.01597	0.01	0.00012
MOTOR FREIGHT	2.26	0.02127	0.05565	0.13	0.00116
COMMUNICATIONS	0.16	0.00155	0.01780	0.0	0.0
UTILITIES	0.66	0.00618	0.04506	0.0	0.0
WHOLESALE TRADE	1.63	0.01533	0.06541	0.0	0.0
RETAIL TRADE	0.08	0.00078	0.08431	0.0	0.0
FIRE	0.73	0.00683	0.17230	0.0	0.0
PERSONAL SERVICE	0.13	0.00119	0.02419	0.0	0.0
BUSINESS,REPAIR	0.58	0.00545	0.03654	0.0	0.0
PROFESS.SERVICE	0.08	0.00075	0.03408	1.17	0.01055
FED.ENTER.	0.02	0.00018	0.00328	0.0	0.0
STATE LOC ENTER	0.01	0.00011	0.00082	0.0	0.0
DIRECT IMPORT	0.0	0.0	0.0	0.0	0.0
TRANSFER IMPORTS	7.08	0.06651	0.0	0.0	0.0
DUMMY 1	0.20	0.00186	0.01074	0.37	0.00467
DUMMY 2	0.04	0.00040	0.00316	0.0	0.0
DUMMY 3	0.00	0.00000	0.0	0.0	0.0
GOV INDUSTRY	0.0	0.0	0.0	0.0	0.0
REST OF WORLD	0.0	0.0	0.0	0.0	0.0
HOUSEHOLD INDUST	0.0	0.0	0.0	0.0	0.0
INVENTORY VAL	0.0	0.0	0.0	0.0	0.0
VALUE ADDED	18.94	0.12997	0.35728	0.0	0.0
CONSUMPTION EXP.				96.32	0.50795
CAPITAL GOOD				0.0	0.0
INVENTORY CHANGE				0.99	0.00896
EXPORTS				32.38	0.29205
FED GOV				1.52	0.01375
STATE AND LOCAL				1.33	0.01196
OUTPUT	106.50				

SECTOR 12 DAIRY PROCESS

	REQUIREMENTS			SALES	
	TRANSACTIONS	DIRECT	TOTAL	TRANSACTIONS	FRACTION
DAIRY	10.08	0.22862	0.27413	0.0	0.0
LIVESTOCK	0.01	0.00017	0.02110	0.0	0.0
GRAINS	0.0	0.0	0.10143	0.0	0.0
OTHER CROPS	0.11	0.00258	0.01647	0.0	0.0
AG SERVICE,FORES	0.0	0.0	0.00470	0.0	0.0
COPPER	0.0	0.0	0.00097	0.0	0.0
COAL	0.01	0.00028	0.00232	0.0	0.0
PETROLM NAT. GAS	0.0	0.0	0.01211	0.0	0.0
OTHER MINING	0.0	0.0	0.00223	0.0	0.0
CONSTRUCTION	0.09	0.00194	0.01231	0.0	0.0
MEAT PROCESS	0.0	0.0	0.01695	0.06	0.00123
DAIRY PROCESS	6.89	0.15614	1.19467	6.89	0.15122
GRAIN PROCESS	0.07	0.00163	0.03853	0.26	0.00563
OTHER FOOD PROC	0.32	0.00735	0.02975	0.31	0.00671
PRINT,PUBLISH	0.03	0.00075	0.00331	0.0	0.0
CHEMICALS	0.02	0.00055	0.00859	0.00	0.00001
LOG AND SAW	0.0	0.0	0.00650	0.0	0.0
MILLWORK,OTHER	0.01	0.00029	0.00619	0.0	0.0
PETR.REFINE	0.23	0.00530	0.02625	0.0	0.0
PRIMARY METAL	0.00	0.00005	0.00729	0.0	0.0
FABRIC METAL	0.11	0.00247	0.00472	0.0	0.0
STONE,CLAY,GLA	0.04	0.00085	0.00446	0.0	0.0
OTHER MANUFAC.	0.75	0.01701	0.04551	0.0	0.0
RAILROAD TRANS	0.10	0.00216	0.01167	0.0	0.0
MOTOR FREIGHT	0.14	0.00314	0.03122	0.03	0.00075
COMMUNICATIONS	0.26	0.00583	0.02172	0.0	0.0
UTILITIES	0.38	0.00860	0.04269	0.0	0.0
WHOLESALE TRADE	1.28	0.02892	0.06838	0.0	0.0
RETAIL TRADE	0.10	0.00223	0.07994	0.0	0.0
FIRE	0.57	0.01300	0.15736	0.0	0.0
PERSONAL SERVICE	0.15	0.00340	0.03019	0.0	0.0
BUSINESS,REPAIR	0.66	0.01491	0.04342	0.0	0.0
PROFESS.SERVICE	0.11	0.00249	0.03658	0.68	0.01488
FED.ENTER.	0.02	0.00043	0.00348	0.08	0.00169
STATE LOC ENTER	0.01	0.00018	0.00087	0.0	0.0
DIRECT IMPORT	0.0	0.0	0.0	0.0	0.0
TRANSFER IMPORTS	11.62	0.26356	0.0	0.0	0.0
DUMMY 1	0.13	0.00288	0.01177	0.69	0.01526
DUMMY 2	0.04	0.00093	0.00368	0.0	0.0
DUMMY 3	0.00	0.00001	0.0	0.0	0.0
GOV INDUSTRY	0.0	0.0	0.0	0.0	0.0
REST OF WORLD	0.0	0.0	0.0	0.0	0.0
HOUSEHOLD INDUST	0.0	0.0	0.0	0.0	0.0
INVENTORY VAL	0.0	0.0	0.0	0.0	0.0
VALUE ADDED	9.76	0.22137	0.37910	0.0	0.0
CONSUMPTION EXP.				31.58	0.69346
CAPITAL FORM				0.0	0.0
INVENTORY CHANGE				0.14	0.00313
EXPORTS				0.0	0.0
FED GOV				4.22	0.09272
STATE AND LOCAL				0.61	0.01332
OUTPUT	44.10				

SECTOR 13 GRAIN PROCESS

	REQUIREMENTS			SALES	
	TRANSACTIONS	DIRECT	TOTAL	TRANSACTIONS	FRACTION
DAIRY	0.0	0.0	0.00766	1.74	0.04567
LIVESTOCK	0.0	0.0	0.04489	3.54	0.09295
GRAINS	10.94	0.27618	0.34180	0.0	0.0
OTHER CROPS	0.05	0.00116	0.02848	2.34	0.06160
AG SERVICE,FORES	0.0	0.0	0.00760	0.19	0.00498
FORES	0.0	0.0	0.00118	0.0	0.0
COAL	0.03	0.00085	0.00346	0.0	0.0
PETROLEUM,NAT. GAS	0.0	0.0	0.01486	0.0	0.0
OTHER MINING	0.33	0.00087	0.00520	0.0	0.0
CONSTRUCTION	0.09	0.00230	0.01655	0.0	0.0
MEAT PROCESS	0.04	0.00111	0.02175	0.0	0.0
DAIRY PROCESS	0.26	0.00647	0.02022	0.07	0.00189
GRAIN PROCESS	5.41	0.13665	1.17041	5.41	0.14223
OTHER FOOD PROC	2.68	0.06504	0.10204	4.09	0.10750
PAINT,PUBLISH	0.01	0.00023	0.00325	0.0	0.0
CHEMICALS	0.24	0.00618	0.02292	0.00	0.00008
LOG AND SAW	0.0	0.0	0.00686	0.0	0.0
MILLWORK,OTHER	0.0	0.0	0.00684	0.0	0.0
PETR,PREPAR	0.04	0.00109	0.03238	0.0	0.0
PRIMARY METAL	0.0	0.0	0.00850	0.68	0.01795
FABRIC METAL	0.06	0.00147	0.00393	0.0	0.0
STONE,CLAY,GLA	0.0	0.0	0.00501	0.0	0.0
OTHER MANUFAC.	0.48	0.01232	0.04671	0.58	0.01521
RAILROAD TRANS	0.95	0.02399	0.03978	0.0	0.0
MOTOR FREIGHT	0.93	0.02346	0.05571	0.00	0.00010
COMMUNICATIONS	0.08	0.00195	0.02034	0.0	0.0
UTILITIES	0.40	0.01019	0.05106	0.0	0.0
WHOLESALE TRADE	1.69	0.04266	0.09202	0.0	0.0
RETAIL TRADE	0.05	0.00125	0.09182	0.02	0.00061
FIRE	0.32	0.00803	0.19814	0.0	0.0
PERSONAL SERVICE	0.05	0.00116	0.02961	0.00	0.00010
BUSINESS,PROFES	0.84	0.02128	0.06211	0.0	0.0
PROFESS,SERVICE	0.04	0.00103	0.03885	0.16	0.00418
ENTERTAIN.	0.01	0.00030	0.00407	0.12	0.00309
STATE LOC ENTER	0.00	0.00007	0.00089	0.0	0.0
DIRECT IMPORT	0.0	0.0	0.0	0.0	0.0
TRANSFER IMPORTS	5.80	0.14653	0.0	0.0	0.0
DUMMY 1	0.13	0.00335	0.01409	0.08	0.00213
DUMMY 2	0.02	0.00056	0.00289	0.0	0.0
DUMMY 3	0.0	0.0	0.0	0.0	0.0
INV INDUSTRY	0.0	0.0	0.0	0.0	0.0
LAB TO WORLD	0.0	0.0	0.0	0.0	0.0
DOMESTIC PRODUCT	0.0	0.0	0.0	0.0	0.0
INVENTORY VAL	0.0	0.0	0.0	0.0	0.0
LAND USED	9.01	0.20237	0.44145	0.0	0.0
IMPORTATION REQ.				8.96	0.23542
CAPITAL REQM				0.0	0.0
INVENTORY CHANGE				0.27	0.00722
EXPORTS				9.07	0.23848
FED GOV				0.61	0.01612
STATE AND LOCAL				0.09	0.00240
OUTPUT	39.50				

SECTOR [illegible] OF [illegible]

	REQUIREMENTS			SALES	
	TRANSACTIONS	DIRECT	TOTAL	TRANSACTIONS	DIRECT
DAIRY	0.0	0.0	0.00525	0.14	0.00208
LIVESTOCK	0.01	0.00017	0.02791	0.40	0.00563
GRAINS	0.24	0.00508	0.03445	0.0	0.0
TREE [illegible]	0.77	0.05586	0.08010	0.15	0.00218
AG SERVICES,OF S	0.04	0.00062	0.00481	0.02	0.00022
COPPER	0.0	0.0	0.00126	0.0	0.0
COAL	0.05	0.00071	0.00331	0.0	0.0
PETROLEUM,NAT. GAS	0.0	0.0	0.01296	0.0	0.0
OTHER MINING	0.00	0.00000	0.00398	0.0	0.0
CONSTRUCTION	0.18	0.00273	0.01240	0.0	0.0
MEAT PROCESS	0.50	0.00737	0.03205	0.03	0.00133
DAIRY PROCESS	0.31	0.00454	0.01995	0.34	0.00470
GRAIN MILLING	4.00	0.06059	0.06568	2.68	0.03740
OTHER FOOD [illegible]	6.71	0.09946	1.13714	6.71	0.09749
PRINT,PUBLISH	0.15	0.00228	0.00560	0.0	0.0
CHEMICALS	0.11	0.00167	0.01162	0.07	0.00102
LOG AND SAW	0.00	0.00000	0.00763	0.0	0.0
MILLWORK,FURNI	0.11	0.00166	0.00946	0.00	0.00003
PETR.REFINE	0.28	0.00417	0.02781	0.15	0.00216
PRIMARY METAL	0.04	0.00062	0.00971	0.0	0.0
FABRIC METAL	0.25	0.00375	0.00601	0.0	0.0
STONE,CLAY,GLA	0.84	0.01249	0.01942	0.00	0.00000
OTHER MANUFAC.	0.79	0.01168	0.04592	0.01	0.00018
RAILROAD TRANS	0.31	0.01193	0.02424	0.01	0.00010
MOTOR FREIGHT	1.03	0.01522	0.04349	0.06	0.00084
COMMUNICATIONS	0.34	0.00501	0.02327	0.0	0.0
UTILITIES	0.44	0.00648	0.04725	0.0	0.0
WHOLESALE TRADE	1.57	0.02325	0.06647	0.0	0.0
RETAIL TRADE	0.12	0.00182	0.10069	0.07	0.00096
FIRE	1.17	0.01735	0.18821	0.0	0.0
PERSONAL SERVICE	0.11	0.00170	0.03357	0.0	0.0
BUSINESS,SERVIC	1.35	0.01997	0.05199	0.0	0.0
PROFESS.SERVICE	0.17	0.00254	0.04431	0.67	0.00973
REC.ENTER.	0.03	0.00045	0.00412	0.04	0.00065
STATE LOC ENTER	0.01	0.00012	0.00099	0.0	0.0
DIRECT IMPORT	0.38	0.00570	0.0	0.0	0.0
TRANSFER IMPORTS	12.73	0.18852	0.0	0.0	0.0
DUMMY 1	0.19	0.00285	0.01233	1.26	0.01829
DUMMY 2	0.07	0.00099	0.00415	0.0	0.0
DUMMY 3	0.00	0.00001	0.0	0.0	0.0
GOV INDUSTRY	0.0	0.0	0.0	0.0	0.0
REST OF WORLD	0.0	0.0	0.0	0.0	0.0
HOUSEHOLD INDUST	0.0	0.0	0.0	0.0	0.0
INVENTORY VAL	0.0	0.0	0.0	0.0	0.0
VALUE ADDED	28.39	0.42060	0.52495	0.0	0.0
CONSUMPTION EXP.				54.16	0.78687
CAPITAL EXP.				0.0	0.0
INVENTORY CHANGE				0.40	0.00579
EXPORTS				0.0	0.0
FED GOV				0.75	0.01084
STATE ENT LOCAL				0.78	0.01129

OUTPUT 67.53

SECTOR 15 PRINT,PUBLISH

	REQUIREMENTS			SALES	
	TRANSACTIONS	DIRECT	TOTAL	TRANSACTIONS	FRACTION
DAIRY	0.0	0.0	0.00441	0.00	0.00013
LIVESTOCK	0.0	0.0	0.02347	0.03	0.00235
GRAINS	0.0	0.0	0.00576	0.03	0.00227
OTHER CROPS	0.0	0.0	0.01741	0.00	0.00029
AG SERVICE,FORES	0.0	0.0	0.00235	0.00	0.00003
FORES	0.0	0.0	0.00159	0.01	0.00048
COAL	0.00	0.00001	0.00274	0.00	0.00001
PETROLM NAT. GAS	0.0	0.0	0.01335	0.00	0.00013
OTHER MINING	0.0	0.0	0.00239	0.00	0.00011
CONSTRUCTION	0.11	0.00355	0.01364	0.00	0.00028
MEAT PROCESS	0.0	0.0	0.03243	0.20	0.01694
DAIRY PROCESS	0.0	0.0	0.01791	0.03	0.00276
GRAIN PROCESS	0.0	0.0	0.00826	0.01	0.00076
OTHER FOOD PROC	0.0	0.0	0.02915	0.15	0.01281
PRINT,PUBLISH	0.50	0.01537	1.01975	0.50	0.04127
CHEMICALS	0.15	0.00452	0.01305	0.00	0.00012
LOG AND SAW	0.0	0.0	0.01319	0.01	0.00068
MILLWORK,OTHER	0.0	0.0	0.01072	0.00	0.00018
PETR.REFINE	0.08	0.00234	0.02770	0.01	0.00072
PRIMARY METAL	0.03	0.00106	0.01198	0.01	0.00089
FABRIC METAL	0.01	0.00019	0.00239	0.00	0.00005
STONE,CLAY,GLA	0.0	0.0	0.00425	0.00	0.00040
OTHER MANUFAC.	1.87	0.05775	0.10255	0.01	0.00064
RAILROAD TRANS	0.22	0.00691	0.01728	0.10	0.00845
MOTOR FREIGHT	0.18	0.00552	0.03628	0.04	0.00354
COMMUNICATIONS	0.53	0.01643	0.02955	0.06	0.00522
UTILITIES	0.19	0.00591	0.05452	0.02	0.00135
WHOLESALE TRADE	0.54	0.01662	0.06336	0.06	0.00477
RETAIL TRADE	0.16	0.00492	0.13878	0.27	0.02237
FIRE	1.14	0.03523	0.25142	1.94	0.16101
PERSONAL SERVICE	0.10	0.00317	0.04872	0.39	0.03204
BUSINESS,REPAIR	0.90	0.02776	0.06199	0.01	0.00119
PROFESS.SERVICE	0.34	0.01038	0.06679	0.28	0.02344
FED.ENTER.	0.13	0.00399	0.00879	0.02	0.00184
STATE LOC ENTER	0.00	0.00007	0.00120	0.03	0.00214
DIRECT IMPORT	0.01	0.00022	0.0	0.0	0.0
TRANSFER IMPORTS	6.96	0.21538	0.0	0.0	0.0
DUMMY 1	0.40	0.01249	0.02380	0.00	0.00000
DUMMY 2	0.08	0.00261	0.00652	0.24	0.01993
DUMMY 3	0.00	0.00002	0.0	0.05	0.00382
GOV INDUSTRY	0.0	0.0	0.0	0.0	0.0
REST OF WORLD	0.0	0.0	0.0	0.0	0.0
HOUSEHOLD INDUST	0.0	0.0	0.0	0.0	0.0
INVENTORY VAL	0.0	0.0	0.0	0.0	0.0
VALUE ADDED	17.69	0.54757	0.72545	0.0	0.0
CONSUMPTION EXP.				4.49	0.37324
CAPITAL FORM				0.0	0.0
INVENTORY CHANGE				0.02	0.00152
EXPORTS				0.0	0.0
FED GOV				0.90	0.07491
STATE AND LOCAL				2.10	0.17492
OUTPUT	32.30				

SECTOR 19 CHEMICALS

	REQUIREMENTS			SALES	
	TRANSACTIONS	DIRECT	TOTAL	TRANSACTIONS	FRACTION
DAIRY	0.0	0.0	0.00295	0.02	0.00037
LIVESTOCK	0.00	0.00001	0.01586	0.47	0.00965
GRAINS	0.00	0.00009	0.00410	7.07	0.14419
OTHER [illegible]	0.07	0.00267	0.01465	5.86	0.12004
AG SERVICE,FORES	0.00	0.00003	0.00163	0.03	0.00062
COPPER	0.0	0.0	0.00526	1.50	0.03052
COAL	0.00	0.00348	0.00765	0.09	0.00161
PETROLM NAT. GAS	0.02	0.00071	0.01590	0.30	0.00621
OTHER MINING	0.04	0.02610	0.03456	0.41	0.00842
CONSTRUCTION	0.16	0.00636	0.01652	1.69	0.03456
MEAT PROCESS	0.00	0.00020	0.02177	0.22	0.00452
DAIRY PROCESS	0.00	0.00003	0.01186	0.02	0.00046
GRAIN PROCESS	0.00	0.00012	0.00588	0.24	0.00500
OTHER FOOD PROC	0.07	0.00286	0.02271	0.11	0.00230
PRINT,PUBLISH	0.00	0.00006	0.00285	0.15	0.00298
CHEMICALS	1.75	0.07105	1.08232	1.75	0.03567
LOG AND SAW	0.0	0.0	0.00655	0.47	0.00954
MILLWORK,OTHER	0.00	0.00005	0.00684	0.67	0.01376
PETR.REFINE	0.19	0.00762	0.02806	1.94	0.03966
PRIMARY METAL	0.46	0.01876	0.03952	2.61	0.05336
FABRIC METAL	0.10	0.00421	0.00616	0.06	0.00116
STONE,CLAY,GLA	0.07	0.00300	0.00724	0.14	0.00289
OTHER MANUFAC.	0.26	0.01066	0.04075	3.43	0.07006
RAILROAD TRANS	0.39	0.01574	0.02586	0.22	0.00456
MOTOR FREIGHT	0.26	0.01054	0.03425	0.04	0.00089
COMMUNICATIONS	0.10	0.00410	0.02036	0.00	0.00005
UTILITIES	0.83	0.03385	0.08214	0.09	0.00181
WHOLESALE TRADE	0.43	0.01766	0.05136	0.01	0.00015
RETAIL TRADE	0.08	0.00310	0.09272	0.14	0.00279
PIPE	0.77	0.03150	0.18570	0.04	0.00082
PERSONAL SERVICE	0.04	0.00168	0.03214	0.45	0.00917
BUSINESS,PROFIS	0.44	0.01775	0.04416	0.18	0.00376
PROFESS.SERVICE	0.11	0.00427	0.04279	1.78	0.03627
FED.ENTER.	0.01	0.00043	0.00392	0.02	0.00032
STATE LOC ENTER	0.01	0.00025	0.00105	0.13	0.00259
DIRECT IMPORT	0.07	0.00269	0.0	0.0	0.0
TRANSFER IMPORTS	6.02	0.24477	0.0	0.0	0.0
DUMMY 1	0.20	0.00819	0.01706	0.00	0.00002
DUMMY 2	0.02	0.00088	0.00394	0.00	0.00001
DUMMY 3	0.08	0.00343	0.0	0.0	0.0
GOV INDUSTRY	0.0	0.0	0.0	0.0	0.0
REST OF WORLD	0.0	0.0	0.0	0.0	0.0
HOUSEHOLD INDUST	0.0	0.0	0.0	0.0	0.0
INVENTORY VAL	0.0	0.0	0.0	0.0	0.0
VALUE ADDED	10.85	0.44109	0.48081	0.0	0.0
CONSUMPTION EXP.				7.76	0.15645
CAPITAL EXPN				0.0	0.0
INVENTORY CHANGE				0.24	0.00492
EXPORTS				0.0	0.0
FED GOV				7.20	0.14686
STATE AND LOCAL				1.42	0.02898
OUTPUT	24.60				

SECTOR 17 LOG AND SAW

	REQUIREMENTS			SALES	
	TRANSACTIONS	DIRECT	TOTAL	TRANSACTIONS	FRACTION
DAIRY	0.0	0.0	0.00430	0.0	0.0
LIVESTOCK	0.0	0.0	0.02223	0.0	0.0
GRAINS	0.0	0.0	0.00591	0.0	0.0
OTHER CROPS	0.0	0.0	0.02035	0.0	0.0
AG SERVICE,FORES	0.30	0.03721	0.05925	0.0	0.0
COPPER	0.0	0.0	0.00201	1.02	0.00467
COAL	0.03	0.00015	0.00333	0.12	0.00053
PETROLM NAT. GAS	0.0	0.0	0.02083	0.0	0.0
OTHER MINING	0.0	0.0	0.00311	0.05	0.00023
CONSTRUCTION	0.93	0.00418	0.01760	6.87	0.03160
MEAT PROCESS	0.0	0.0	0.03052	0.0	0.0
DAIRY PROCESS	0.0	0.0	0.01734	0.0	0.0
GRAIN PROCESS	0.0	0.0	0.00912	0.0	0.0
OTHER FOOD PROC	0.0	0.0	0.02842	0.00	0.00000
PRINT,PUBLISH	0.01	0.00004	0.00390	0.0	0.0
CHEMICALS	0.47	0.00210	0.01129	0.0	0.0
LOG AND SAW	76.63	0.34380	1.53663	76.63	0.35224
MILLWORK,OTHER	1.79	0.00802	0.02403	15.60	0.07172
PETR.REFINE	2.75	0.01233	0.04580	0.01	0.00003
PRIMARY METAL	0.59	0.00265	0.01512	0.02	0.00010
FABRIC METAL	0.42	0.00187	0.00495	0.01	0.00007
STONE,CLAY,GLA	0.67	0.00299	0.00972	0.06	0.00028
OTHER MANUFAC.	1.24	0.00556	0.05027	15.25	0.07011
RAILROAD TRANS	3.33	0.01492	0.03369	0.0	0.0
MOTOR FREIGHT	1.61	0.00722	0.03992	0.0	0.0
COMMUNICATIONS	0.53	0.00239	0.02574	0.0	0.0
UTILITIES	2.73	0.01222	0.06976	0.0	0.0
WHOLESALE TRADE	4.58	0.02054	0.07704	0.00	0.00001
RETAIL TRADE	0.56	0.00253	0.13454	0.0	0.0
FIRE	3.25	0.01456	0.23665	0.0	0.0
PERSONAL SERVICE	0.06	0.00026	0.04202	0.0	0.0
BUSINESS,REPAIR	2.47	0.01107	0.04979	0.0	0.0
PROFESS.SERVICE	0.49	0.00220	0.05852	0.0	0.0
ED.ENTER.	0.06	0.00027	0.00491	0.0	0.0
STATE LOC ENTER	0.04	0.00017	0.00137	0.0	0.0
DIRECT IMPORT	0.0	0.0	0.0	0.0	0.0
TRANSFER IMPORTS	16.56	0.07428	0.0	0.0	0.0
DUMMY 1	0.38	0.00170	0.01348	0.0	0.0
DUMMY 2	0.13	0.00059	0.00460	0.0	0.0
DUMMY 3	0.0	0.0	0.0	0.0	0.0
GOV INDUSTRY	0.0	0.0	0.0	0.0	0.0
REST OF WORLD	0.0	0.0	0.0	0.0	0.0
CONSUMPT INDUST	0.0	0.0	0.0	0.0	0.0
INVENTORY VAL	0.0	0.0	0.0	0.0	0.0
VALUE ADDED	92.31	0.41415	0.71797	0.20	0.00040
CONSUMPTION EXP.				0.0	0.0
CAPITAL ACCM				8.61	0.01152
INVENTORY CHANGE				99.29	0.45640
EXPORTS				0.02	0.00011
FED GOV				0.0	0.0
STATE AND LOCAL					

SECTOR 19 MILLWORK,OTHER

	REQUIREMENTS			SALES	
	TRANSACTIONS	DIRECT	TOTAL	TRANSACTIONS	FRACTION
DAIRY	0.0	0.0	0.00427	0.00	0.00002
LIVESTOCK	0.0	0.0	0.02228	0.04	0.00051
GRAINS	0.0	0.0	0.00561	0.03	0.00038
OTHER CROPS	0.0	0.0	0.01745	0.18	0.00229
AG SERVICE,FORES	0.0	0.0	0.01565	0.06	0.00081
COPPER	0.0	0.0	0.00348	0.0	0.0
COAL	0.02	0.00028	0.00374	0.0	0.0
PETROLM NAT. GAS	0.0	0.0	0.01631	0.0	0.0
OTHER MINING	0.0	0.0	0.00594	0.0	0.0
CONSTRUCTION	0.37	0.00483	0.01916	14.45	0.18584
MEAT PROCESS	0.0	0.0	0.03077	0.11	0.00148
DAIRY PROCESS	0.0	0.0	0.01729	0.01	0.00016
GRAIN PROCESS	0.0	0.0	0.00817	0.0	0.0
OTHER FOOD PROC	0.00	0.00003	0.02827	0.11	0.00144
PRINT,PUBLISH	0.00	0.00003	0.00294	0.0	0.0
CHEMICALS	0.67	0.00886	0.01941	0.00	0.00001
LOG AND SAW	15.60	0.20503	0.36960	1.79	0.02298
MILLWORK,OTHER	10.03	0.13183	1.16492	10.03	0.12901
PETR.REFINE	0.16	0.00205	0.03353	0.0	0.0
PRIMARY METAL	0.55	0.00719	0.02626	0.10	0.00132
FABRIC METAL	0.47	0.00618	0.00991	0.01	0.00009
STONE,CLAY,GLA	1.25	0.01646	0.02739	0.01	0.00008
OTHER MANUFAC.	0.68	0.00896	0.05351	5.14	0.06611
RAILROAD TRANS	1.38	0.02468	0.04590	0.0	0.0
MOTOR FREIGHT	0.54	0.00715	0.04125	0.01	0.00015
COMMUNICATIONS	0.29	0.00384	0.02787	0.0	0.0
UTILITIES	0.79	0.01037	0.06863	0.0	0.0
WHOLESALE TRADE	2.56	0.03368	0.09196	0.32	0.00407
RETAIL TRADE	0.13	0.00172	0.13321	0.06	0.00078
FIRE	1.45	0.01899	0.24068	0.0	0.0
PERSONAL SERVICE	0.03	0.00044	0.04306	0.05	0.00060
BUSINESS.REPAIR	0.73	0.00958	0.04890	0.0	0.0
PROFESS.SERVICE	0.19	0.00244	0.05893	0.0	0.0
FED.ENTER.	0.03	0.00038	0.00511	0.0	0.0
STATE LOC ENTER	0.00	0.00000	0.00118	0.0	0.0
DIRECT IMPORT	0.00	0.00002	0.0	0.0	0.0
TRANSFER IMPORTS	7.11	0.09345	0.0	0.0	0.0
DUMMY 1	0.36	0.00467	0.01731	0.02	0.00022
DUMMY 2	0.06	0.00075	0.00491	0.00	0.00001
DUMMY 3	0.0	0.0	0.0	0.0	0.0
GOV INDUSTRY	0.0	0.0	0.0	0.0	0.0
REST OF WORLD	0.0	0.0	0.0	0.0	0.0
HOUSEHOLD INDUST	0.0	0.0	0.0	0.0	0.0
INVENTORY VAL	0.0	0.0	0.0	0.0	0.0
VALUE ADDED	30.14	0.39604	0.71181	0.0	0.0
CONSUMPTION EXP.				14.17	0.18220
CAPITAL FORM				2.09	0.02682
INVENTORY CHANGE				0.99	0.01272
EXPORTS				23.17	0.29796
FED GOV				2.38	0.03060
STATE AND LOCAL				2.44	0.03135
OUTPUT	76.10				

SECTOR 23 PRIMARY METAL

	REQUIREMENTS			SALES	
	TRANSACTIONS	DIRECT	TOTAL	TRANSACTIONS	FRACTION
DAIRY	0.0	0.0	0.00385	0.00	0.00000
LIVESTOCK	0.0	0.0	0.02004	0.02	0.00004
GRAINS	0.0	0.0	0.00574	0.01	0.00002
OTHER CROPS	0.0	0.0	0.01493	0.00	0.00000
AG SERVICE,FORES	0.0	0.0	0.00208	0.00	0.00000
COPPER	48.50	0.11031	0.19849	4.66	0.01077
COAL	0.98	0.00201	0.00952	0.27	0.00061
PETROLEUM NAT. GAS	0.0	0.0	0.02305	0.94	0.00217
OTHER MINING	42.00	0.09551	0.15435	1.46	0.00343
CONSTRUCTION	1.91	0.00434	0.02263	15.88	0.03666
MEAT PROCESS	0.0	0.0	0.02763	0.01	0.00002
DAIRY PROCESS	0.0	0.0	0.01559	0.00	0.00001
GRAIN PROCESS	0.68	0.00155	0.00978	0.0	0.0
OTHER FOOD PROC	0.0	0.0	0.02559	0.04	0.00010
PRINT,PUBLISH	0.01	0.00002	0.00356	0.03	0.00008
CHEMICALS	2.61	0.00595	0.02016	0.46	0.00107
LOG AND SAW	0.02	0.00005	0.01113	0.59	0.00137
MILLWORK,OTHER	0.10	0.00023	0.00936	0.55	0.00126
PETR.REFINE	2.60	0.00591	0.03812	0.43	0.00100
PRIMARY METAL	140.86	0.32035	1.49709	140.86	0.32526
FABRIC METAL	0.07	0.00015	0.00245	4.43	0.01023
STONE,CLAY,GLA	0.69	0.00158	0.00796	0.55	0.00127
OTHER MANUFAC.	1.84	0.00418	0.05007	11.46	0.02646
RAILROAD TRANS	8.40	0.01910	0.04205	3.07	0.00708
MOTOR FREIGHT	2.73	0.00622	0.03723	0.04	0.00008
COMMUNICATIONS	0.62	0.00142	0.02337	0.05	0.00011
UTILITIES	22.32	0.05076	0.15380	0.02	0.00005
WHOLESALE TRADE	5.95	0.01353	0.06510	0.0	0.0
RETAIL TRADE	0.28	0.00065	0.11960	0.0	0.0
FIRE	4.44	0.01010	0.22653	0.0	0.0
PERSONAL SERVICE	0.11	0.00026	0.03873	0.02	0.00004
BUSINESS,REPAIR	2.51	0.00571	0.04360	0.01	0.00003
PROFESS.SERVICE	0.81	0.00183	0.05434	0.0	0.0
FED.ENTER.	0.05	0.00012	0.00465	0.00	0.00000
STATE LOC ENTER	0.06	0.00014	0.00122	0.02	0.00006
DIRECT IMPORT	5.26	0.01197	0.0	0.0	0.0
TRANSFER IMPORTS	19.09	0.04342	0.0	0.0	0.0
DUMMY 1	0.80	0.00181	0.01450	0.0	0.0
DUMMY 2	0.11	0.00026	0.00409	0.00	0.00000
DUMMY 3	6.64	0.01511	0.0	0.43	0.00100
GOV INDUSTRY	0.0	0.0	0.0	0.0	0.0
REST OF WORLD	0.0	0.0	0.0	0.0	0.0
HOUSEHOLD INDUST	0.0	0.0	0.0	0.0	0.0
INVENTORY VAL	0.0	0.0	0.0	0.0	0.0
VALUE ADDED	116.72	0.26544	0.64200	0.0	0.0
CONSUMPTION EXP.				0.06	0.00014
CAPITAL FORM				0.05	0.00011
INVENTORY CHANGE				12.29	0.02836
EXPORTS				230.74	0.53279
FED GOV				3.59	0.00828
STATE AND LOCAL				0.02	0.00004
OUTPUT	439.70				

SECTOR 19 PETR.REFINE

	REQUIREMENTS			SALES	
	TRANSACTIONS	DIRECT	TOTAL	TRANSACTIONS	FRACTION
DAIRY	0.0	0.0	0.00190	0.08	0.00038
LIVESTOCK	0.0	0.0	0.01013	2.31	0.01066
GRAINS	0.0	0.0	0.00250	8.38	0.03872
OTHER CROPS	0.0	0.0	0.00756	4.47	0.02062
AG SERVICE,FORES	0.0	0.0	0.00104	0.03	0.00012
COPPER	0.0	0.0	0.00187	0.47	0.00219
COAL	0.06	0.00025	0.00255	0.19	0.00085
PETROLM NAT. GAS	88.07	0.35578	0.39890	0.25	0.00114
OTHER MINING	0.01	0.00005	0.00281	1.26	0.00580
CONSTRUCTION	2.62	0.01121	0.02888	7.81	0.03605
MEAT PROCESS	0.01	0.00005	0.01402	0.12	0.00056
DAIRY PROCESS	0.0	0.0	0.00769	0.23	0.00108
GRAIN PROCESS	0.0	0.0	0.00358	0.04	0.00020
OTHER FOOD PROC	0.15	0.00064	0.01330	0.28	0.00130
PRINT,PUBLISH	0.01	0.00004	0.00233	0.08	0.00035
CHEMICALS	1.94	0.00832	0.01441	0.19	0.00087
LOG AND SAW	0.01	0.00003	0.00503	2.75	0.01270
MILLWORK,OTHER	0.0	0.0	0.00518	0.16	0.00072
PETR.REFINE	15.85	0.06787	1.08823	15.85	0.07319
PRIMARY METAL	0.43	0.00185	0.01408	2.60	0.01200
FABRIC METAL	0.16	0.00071	0.00282	0.04	0.00019
STONE,CLAY,GLA	0.03	0.00015	0.00647	0.31	0.00145
OTHER MANUFAC.	0.69	0.00296	0.02756	1.55	0.00714
RAILROAD TRANS	0.38	0.00161	0.00813	4.97	0.02295
MOTOR FREIGHT	10.20	0.04367	0.06684	5.84	0.02699
COMMUNICATIONS	0.20	0.00085	0.01398	0.30	0.00139
UTILITIES	4.26	0.01826	0.05388	1.84	0.00852
WHOLESALE TRADE	1.43	0.00612	0.03152	1.84	0.00851
RETAIL TRADE	0.09	0.00039	0.06184	3.54	0.01633
FIRE	7.96	0.03410	0.21952	1.00	0.00462
PERSONAL SERVICE	0.14	0.00060	0.02094	1.07	0.00494
BUSINESS,REPAIR	3.91	0.01677	0.04188	0.55	0.00253
PROFESS.SERVICE	0.23	0.00099	0.03145	0.56	0.00259
FED.ENTER.	0.07	0.00029	0.00375	0.11	0.00049
STATE LOC ENTER	0.00	0.00001	0.00064	0.29	0.00132
DIRECT IMPORT	0.02	0.00008	0.0	0.0	0.0
TRANSFER IMPORTS	36.28	0.15538	0.0	0.0	0.0
DUMMY 1	0.21	0.00088	0.01050	0.0	0.0
DUMMY 2	0.10	0.00043	0.00358	0.0	0.0
DUMMY 3	0.11	0.00046	0.0	0.11	0.00052
GOV INDUSTRY	0.0	0.0	0.0	0.0	0.0
REST OF WORLD	0.0	0.0	0.0	0.0	0.0
HOUSEHOLD INDUST	0.0	0.0	0.0	0.0	0.0
INVENTORY VAL	0.0	0.0	0.0	0.0	0.0
VALUE ADDED	62.86	0.26920	0.31173	0.0	0.0
CONSUMPTION EXP.				33.85	0.15632
CAPITAL FORM				0.0	0.0
INVENTORY CHANGE				4.79	0.02212
EXPORTS				91.31	0.42170
FED GOV				12.97	0.05990
STATE AND LOCAL				2.17	0.01000
OUTPUT	233.50				

SECTOR 21 FABRIC METAL

	REQUIREMENTS			SALES	
	TRANSACTIONS	DIRECT	TOTAL	TRANSACTIONS	FRACTION
DAIRY	0.0	0.0	0.00430	0.02	0.00123
LIVESTOCK	0.0	0.0	0.02280	0.09	0.00589
GRAINS	0.0	0.0	0.00583	0.09	0.00567
OTHER CROPS	0.0	0.0	0.01681	0.02	0.00166
AG SERVICE,FORES	0.0	0.0	0.00227	0.01	0.00084
COPPER	0.0	0.0	0.06469	0.05	0.00308
COAL	0.00	0.00009	0.00515	0.05	0.00347
PETROLM NAT. GAS	0.0	0.0	0.01763	0.15	0.01023
OTHER MINING	0.00	0.00018	0.05186	0.07	0.00487
CONSTRUCTION	0.04	0.00256	0.01701	7.52	0.50103
MEAT PROCESS	0.0	0.0	0.03155	0.13	0.00877
DAIRY PROCESS	0.0	0.0	0.01744	0.11	0.00725
GRAIN PROCESS	0.0	0.0	0.00878	0.06	0.00387
OTHER FOOD PROC	0.0	0.0	0.02849	0.25	0.01688
PRINT,PUBLISH	0.00	0.00005	0.00396	0.01	0.00041
CHEMICALS	0.06	0.00410	0.01612	0.10	0.00690
LOG AND SAW	0.01	0.00104	0.01166	0.42	0.02786
MILLWORK,OTHER	0.01	0.00048	0.01035	0.47	0.03133
PETR.REFINE	0.04	0.00295	0.03316	0.16	0.01100
PRIMARY METAL	4.43	0.31879	0.48794	0.07	0.00441
FABRIC METAL	0.15	0.01099	1.01321	0.15	0.01019
STONE,CLAY,GLA	0.09	0.00615	0.01245	0.06	0.00372
OTHER MANUFAC.	0.18	0.01329	0.05816	1.37	0.09126
RAILROAD TRANS	0.11	0.00821	0.02890	0.16	0.01073
MOTOR FREIGHT	0.11	0.00780	0.04220	0.03	0.00181
COMMUNICATIONS	0.09	0.00642	0.02966	0.00	0.00003
UTILITIES	0.12	0.00887	0.09308	0.03	0.00212
WHOLESALE TRADE	0.28	0.01980	0.07246	0.00	0.00016
RETAIL TRADE	0.10	0.00711	0.13844	0.19	0.01271
PIPE	0.29	0.02063	0.24296	0.00	0.00017
PERSONAL SERVICE	0.05	0.00344	0.04773	0.07	0.00485
BUSINESS,REPAIR	0.14	0.01000	0.04736	0.68	0.04531
PROFESS.SERVICE	0.04	0.00274	0.05906	0.01	0.00081
FED.ENTER.	0.01	0.00042	0.00513	0.00	0.00012
STATE LOC ENTER	0.00	0.00002	0.00121	0.01	0.00041
DIRECT IMPORT	0.0	0.0	0.0	0.0	0.0
TRANSFER IMPORTS	1.55	0.11134	0.0	0.0	0.0
DUMMY 1	0.15	0.01101	0.02329	0.00	0.00001
DUMMY 2	0.01	0.00092	0.00486	0.00	0.00000
DUMMY 3	0.03	0.00209	0.0	0.01	0.00047
GOV INDUSTRY	0.0	0.0	0.0	0.0	0.0
REST OF WORLD	0.0	0.0	0.0	0.0	0.0
HOUSEHOLD INDUST	0.0	0.0	0.0	0.0	0.0
INVENTORY VAL	0.0	0.0	0.0	0.0	0.0
VALUE ADDED	6.21	0.41329	0.71169	0.0	0.0
CONSUMPTION EXP.				0.71	0.04727
CAPITAL GOOV				0.23	0.01548
INVENTORY CHANGE				0.03	0.00194
EXPORTS				0.0	0.0
FED GOV				1.35	0.08984
STATE AND LOCAL				0.06	0.00396
OUTPUT	15.00				

SECTOR 22 STONE,CLAY,GLA

	REQUIREMENTS			SALES	
	TRANSACTIONS	DIRECT	TOTAL	TRANSACTIONS	FRACTION
DAIRY	0.0	0.0	0.00434	0.01	0.00031
LIVESTOCK	0.0	0.0	0.02271	0.05	0.00123
GRAINS	0.0	0.0	0.00563	0.13	0.00310
OTHER CROPS	0.0	0.0	0.01685	0.26	0.00655
AG SERVICE,FORES	0.0	0.0	0.00231	0.00	0.00002
COPPER	0.0	0.0	0.00481	0.38	0.00892
COAL	0.45	0.01051	0.01847	0.05	0.00127
PETROLM NAT. GAS	0.0	0.0	0.02148	0.61	0.01444
OTHER MINING	3.40	0.08014	0.10082	0.06	0.00147
CONSTRUCTION	0.43	0.01025	0.02603	25.65	0.60807
MEAT PROCESS	0.0	0.0	0.00142	0.02	0.00042
DAIRY PROCESS	0.0	0.0	0.01761	0.04	0.00086
GRAIN PROCESS	0.0	0.0	0.00805	0.0	0.0
OTHER FOOD PROC	0.00	0.00001	0.02871	0.84	0.01982
PAINT,PUBLISH	0.00	0.00011	0.00414	0.0	0.0
CHEMICALS	0.14	0.00334	0.01273	0.07	0.00174
LOG AND SAW	0.06	0.00144	0.01218	0.67	0.01556
MILLWORK,OTHER	0.01	0.00014	0.01034	1.25	0.02946
PETR.REFINE	0.31	0.00741	0.04019	0.03	0.00082
PRIMARY METAL	0.55	0.01295	0.03579	0.69	0.01629
FABRIC METAL	0.06	0.00132	0.00387	0.09	0.00201
STONE,CLAY,GLA	5.32	0.12548	1.14870	5.32	0.12514
OTHER MANUFAC.	0.52	0.01216	0.05798	1.05	0.02463
RAILROAD TRANS	1.12	0.02631	0.04309	0.12	0.00289
MOTOR FREIGHT	1.85	0.04357	0.08441	0.11	0.00250
COMMUNICATIONS	0.21	0.00502	0.02925	0.00	0.00001
UTILITIES	1.77	0.04185	0.11445	0.0	0.0
WHOLESALE TRADE	0.67	0.01576	0.06676	0.14	0.00320
RETAIL TRADE	0.10	0.00233	0.13635	0.56	0.01308
FIRE	1.26	0.02979	0.26021	0.00	0.00008
PERSONAL SERVICE	0.04	0.00105	0.04474	0.18	0.00425
BUSINESS,REPAIR	0.61	0.01440	0.05385	0.65	0.01523
PROFESS.SERVICE	0.14	0.00325	0.06055	0.09	0.00216
FED.ENTER.	0.01	0.00031	0.00527	0.00	0.00004
STATE LOC ENTER	0.00	0.00004	0.00126	0.02	0.00042
DIRECT IMPORT	0.00	0.00000	0.0	0.0	0.0
TRANSFER IMPORTS	3.61	0.08517	0.0	0.0	0.0
DUMMY 1	0.23	0.00544	0.01806	0.00	0.00000
DUMMY 2	0.03	0.00069	0.00487	0.00	0.00000
DUMMY 3	0.00	0.00005	0.0	0.0	0.0
GOV INDUSTRY	0.0	0.0	0.0	0.0	0.0
REST OF WORLD	0.0	0.0	0.0	0.0	0.0
HOUSEHOLD INDUST	0.0	0.0	0.0	0.0	0.0
INVENTORY VAL	0.0	0.0	0.0	0.0	0.0
VALUE ADDED	19.49	0.45971	0.72421	0.0	0.0
CONSUMPTION EXP.				1.75	0.04124
CAPITAL FORM				0.0	0.0
INVENTORY CHANGE				0.42	0.00991
EXPORTS				0.0	0.0
FED GOV				0.51	0.01192
STATE AND LOCAL				0.46	0.01082
OUTPUT	42.43				

SECTOR 22 OTHER MANUFAC.

	REQUIREMENTS			SALES	
	TRANSACTIONS	DIRECT	TOTAL	TRANSACTIONS	FRACTION
DAIRY	0.0	0.0	0.00410	0.02	0.00010
LIVESTOCK	0.17	0.00066	0.02393	0.40	0.00162
GRAINS	0.0	0.0	0.00630	1.66	0.00668
OTHER CROPS	0.07	0.00027	0.01735	0.58	0.00231
AG SERVICE,FORES	0.01	0.00005	0.00600	0.27	0.00107
COPPER	0.0	0.0	0.01071	2.46	0.00986
COAL	0.83	0.00326	0.00720	0.29	0.00118
PETROLEM NAT. GAS	0.0	0.0	0.01629	1.18	0.00474
OTHER MINING	0.33	0.00131	0.01152	1.11	0.00444
CONSTRUCTION	1.00	0.00394	0.01546	7.21	0.02891
MEAT PROCESS	0.48	0.00188	0.03186	1.03	0.00414
DAIRY PROCESS	0.0	0.0	0.01659	0.75	0.00301
GRAIN PROCESS	0.58	0.00228	0.01053	0.48	0.00194
OTHER FOOD PROC	0.01	0.00005	0.02725	0.79	0.00316
PRINT,PUBLISH	0.01	0.00003	0.00369	1.87	0.00748
CHEMICALS	3.43	0.01346	0.02326	0.26	0.00105
LOG AND SAW	15.25	0.05982	0.11094	1.24	0.00497
MILLWORK,OTHER	5.14	0.02016	0.03421	0.68	0.00274
PETR.REFINE	1.55	0.00607	0.03307	0.69	0.00277
PRIMARY METAL	11.46	0.04493	0.08074	1.84	0.00737
FABRIC METAL	1.37	0.00537	0.00788	0.18	0.00074
STONE,CLAY,GLA	1.05	0.00411	0.00986	0.52	0.00207
OTHER MANUFAC.	12.66	0.04965	1.09167	12.66	0.05080
RAILROAD TRANS	3.29	0.01288	0.02705	1.55	0.00621
MOTOR FREIGHT	2.40	0.00941	0.04003	1.06	0.00424
COMMUNICATIONS	1.43	0.00563	0.02732	0.50	0.00203
UTILITIES	3.86	0.01512	0.07094	0.35	0.00140
WHOLESALE TRADE	6.64	0.02602	0.07404	0.68	0.00272
RETAIL TRADE	1.36	0.00535	0.12999	2.46	0.00988
FIRE	3.95	0.01549	0.21979	0.86	0.00344
PERSONAL SERVICE	0.35	0.00138	0.04259	1.52	0.00609
BUSINESS,REPAIR	3.28	0.01288	0.04666	2.83	0.01135
PROFESS.SERVICE	0.96	0.00378	0.05652	1.56	0.00627
FED.ENTER.	0.13	0.00050	0.00481	0.04	0.00017
STATE LOC ENTER	0.03	0.00013	0.00122	0.10	0.00041
DIRECT IMPORT	0.34	0.00133	0.0	0.0	0.0
TRANSFER IMPORTS	49.79	0.19526	0.0	0.0	0.0
DUMMY 1	2.11	0.00828	0.01932	0.07	0.00027
DUMMY 2	0.24	0.00094	0.00455	0.60	0.00239
DUMMY 3	4.17	0.01636	0.0	0.08	0.00033
GOV INDUSTRY	0.0	0.0	0.0	0.0	0.0
REST OF WORLD	0.0	0.0	0.0	0.0	0.0
HOUSEHOLD INDUST	0.0	0.0	0.0	0.0	0.0
INVENTORY VAL	0.0	0.0	0.0	0.0	0.0
VALUE ADDED	115.25	0.45195	0.67758	0.0	0.0
CONSUMPTION EXP.				65.91	0.26446
CAPITAL FORM				9.54	0.03827
INVENTORY CHANGE				0.88	0.00354
EXPORTS				0.0	0.0
FED GOV				114.73	0.46033
STATE AND LOCAL				5.75	0.02306
OUTPUT	255.00				

SECTOR 24 RAILROAD TRANS

	REQUIREMENTS			SALES	
	TRANSACTIONS	DIRECT	TOTAL	TRANSACTIONS	FRACTION
DAIRY	0.0	0.0	0.00468	0.10	0.00061
LIVESTOCK	0.0	0.0	0.02416	2.31	0.01352
GRAINS	0.0	0.0	0.00605	1.57	0.00919
OTHER CROPS	0.01	0.00005	0.01811	1.08	0.00634
AG SERVICES,FORES	0.02	0.00009	0.00257	0.04	0.00022
COPPER	0.0	0.0	0.00518	0.84	0.00494
COAL	0.00	0.00002	0.00301	0.08	0.00049
PETROLM NAT. GAS	0.0	0.0	0.02549	0.18	0.00107
OTHER MINING	0.00	0.00001	0.00607	0.31	0.00179
CONSTRUCTION	11.57	0.06475	0.07937	3.57	0.02094
MEAT PROCESS	0.01	0.00007	0.02340	0.30	0.00175
DAIRY PROCESS	0.0	0.0	0.01899	0.10	0.00056
GRAIN PROCESS	0.0	0.0	0.00869	0.95	0.00557
OTHER FOOD PROC	0.01	0.00004	0.03098	0.81	0.00472
PAINT,PUBLISH	0.10	0.00057	0.00506	0.22	0.00131
CHEMICALS	0.22	0.00125	0.01003	0.39	0.00227
LOG AND SAW	0.0	0.0	0.01127	3.33	0.01951
MILLWORK,OTHER	0.0	0.0	0.01292	1.88	0.01102
PETR.REFINE	4.97	0.02780	0.05953	0.38	0.00221
PRIMARY METAL	3.07	0.01717	0.03904	8.40	0.04925
FABRIC METAL	0.16	0.00090	0.00409	0.11	0.00067
STONE,CLAY,GLA	0.12	0.00069	0.00986	1.12	0.00654
OTHER MANUFAC.	1.55	0.00866	0.05421	3.29	0.01927
RAILROAD TRANS	9.83	0.05501	1.06885	9.83	0.05765
MOTOR FREIGHT	1.84	0.01032	0.04216	0.89	0.00522
COMMUNICATIONS	1.45	0.00814	0.03291	0.03	0.00017
UTILITIES	1.62	0.00909	0.06413	2.70	0.01584
WHOLESALE TRADE	1.51	0.00846	0.05932	0.09	0.00054
RETAIL TRADE	0.16	0.00091	0.14586	0.19	0.00110
FIRE	10.16	0.05684	0.29700	0.14	0.00082
PERSONAL SERVICE	0.28	0.00156	0.04733	0.13	0.00076
BUSINESS,REPAIR	0.98	0.00549	0.04316	0.25	0.00146
PROFESS.SERVICE	0.55	0.00306	0.06544	0.16	0.00097
FED.ENTER.	0.13	0.00074	0.00598	0.94	0.00550
STATE LOC ENTER	0.02	0.00012	0.00134	0.12	0.00072
DIRECT IMPORT	0.67	0.00378	0.0	0.0	0.0
TRANSFER IMPORTS	11.44	0.06400	0.0	0.0	0.0
DUMMY 1	0.31	0.00173	0.01345	0.91	0.00536
DUMMY 2	0.35	0.00193	0.00628	0.0	0.0
DUMMY 3	0.0	0.0	0.0	0.46	0.00270
GOV INDUSTRY	0.0	0.0	0.0	0.0	0.0
REST OF WORLD	0.0	0.0	0.0	0.0	0.0
HOUSEHOLD INDUST	0.0	0.0	0.0	0.0	0.0
INVENTORY VAL	0.0	0.0	0.0	0.0	0.0
VALUE ADDED	115.57	0.64675	0.78778	0.0	0.0
CONSUMPTION EXP.				7.27	0.04263
CAPITAL FORM				4.26	0.02497
INVENTORY CHANGE				1.44	0.00843
EXPORTS				104.29	0.61165
FED GOV				4.59	0.02694
STATE AND LOCAL				0.48	0.00281

OUTPUT 170.58

SECTOR 25 MOTOR FREIGHT

	REQUIREMENTS			SALES	
	TRANSACTIONS	DIRECT	TOTAL	TRANSACTIONS	FRACTION
DAIRY	0.0	0.0	0.00476	0.48	0.00344
LIVESTOCK	0.0	0.0	0.02518	5.12	0.03686
GRAINS	0.0	0.0	0.00614	2.06	0.01481
OTHER CROPS	0.01	0.00004	0.01851	1.05	0.00758
AG SERVICE,FORES	0.00	0.00002	0.00234	0.08	0.00059
COPPER	0.0	0.0	0.00103	0.37	0.00264
COAL	0.02	0.00015	0.00281	0.05	0.00036
PETROLM NAT. GAS	0.08	0.00059	0.03224	0.18	0.00133
OTHER MINING	0.01	0.00005	0.00194	0.19	0.00138
CONSTRUCTION	0.49	0.00359	0.01532	5.66	0.04080
MEAT PROCESS	0.13	0.00095	0.02489	2.26	0.01631
DAIRY PROCESS	0.03	0.00025	0.01933	0.14	0.00100
GRAIN PROCESS	0.00	0.00003	0.00870	0.93	0.00669
OTHER FOOD PROC	0.06	0.00043	0.03149	1.03	0.00740
PRINT,PUBLISH	0.04	0.00031	0.00465	0.18	0.00128
CHEMICALS	0.04	0.00032	0.00855	0.26	0.00187
LOG AND SAW	0.0	0.0	0.00853	1.61	0.01159
MILLWORK,OTHER	0.01	0.00008	0.01028	0.54	0.00392
PETR.REFINE	5.84	0.04320	0.07743	10.20	0.07345
PRIMARY METAL	0.04	0.00027	0.00775	2.73	0.01969
FABRIC METAL	0.03	0.00020	0.00225	0.11	0.00078
STONE,CLAY,GLA	0.11	0.00078	0.00535	1.85	0.01331
OTHER MANUFAC.	1.06	0.00782	0.05252	2.40	0.01728
RAILROAD TRANS	0.89	0.00658	0.01681	1.84	0.01328
MOTOR FREIGHT	12.98	0.09596	1.13738	12.98	0.09353
COMMUNICATIONS	1.57	0.01158	0.03695	0.15	0.00106
UTILITIES	0.69	0.00512	0.05707	0.94	0.00676
WHOLESALE TRADE	3.68	0.02718	0.07824	2.42	0.01747
RETAIL TRADE	1.87	0.01385	0.15783	0.76	0.00546
FIRE	4.61	0.03406	0.27277	0.77	0.00554
PERSONAL SERVICE	0.16	0.00118	0.04798	0.61	0.00443
BUSINESS,REPAIR	3.16	0.02332	0.06219	0.50	0.00357
PROFESS.SERVICE	0.37	0.00274	0.06335	0.58	0.00418
FED.ENTER.	0.08	0.00062	0.00577	1.50	0.01080
STATE LOC ENTER	0.27	0.00198	0.00337	0.19	0.00140
DIRECT IMPORT	0.58	0.00426	0.0	0.0	0.0
TRANSFER IMPORTS	9.20	0.06800	0.0	0.0	0.0
DUMMY 1	0.79	0.00586	0.01794	9.99	0.07196
DUMMY 2	0.17	0.00124	0.00550	0.0	0.0
DUMMY 3	0.03	0.00025	0.0	0.0	0.0
GOV INDUSTRY	0.0	0.0	0.0	0.0	0.0
REST OF WORLD	0.0	0.0	0.0	0.0	0.0
HOUSEHOLD INDUST	0.0	0.0	0.0	0.0	0.0
INVENTORY VAL	0.0	0.0	0.0	0.0	0.0
VALUE ADDED	56.21	0.63715	0.78374	0.0	0.0
CONSUMPTION EXP.				26.59	0.19156
CAPITAL FORM				2.30	0.01653
INVENTORY CHANGE				0.48	0.00348
EXPORTS				0.0	0.0
FED GOV				30.79	0.22180
STATE AND LOCAL				5.94	0.04281

OUTPUT 138.76

SECTOR 26 COMMUNICATIONS

	REQUIREMENTS			SALES	
	TRANSACTIONS	DIRECT	TOTAL	TRANSACTIONS	FRACTION
DAIRY	0.0	0.0	0.00345	0.06	0.00068
LIVESTOCK	0.0	0.0	0.01839	1.07	0.01244
GRAINS	0.0	0.0	0.00454	0.76	0.00882
OTHER CROPS	0.0	0.0	0.01353	0.33	0.00381
AG SERVICE,FORES	0.0	0.0	0.00172	0.00	0.00000
COPPER	0.0	0.0	0.00086	0.40	0.00470
COAL	0.00	0.00003	0.00215	0.03	0.00031
PETROLM NAT. GAS	0.0	0.0	0.01104	0.10	0.00114
OTHER MINING	0.0	0.0	0.00161	0.07	0.00083
CONSTRUCTION	1.96	0.01817	0.02621	1.31	0.01522
MEAT PROCESS	0.0	0.0	0.02545	0.16	0.00192
DAIRY PROCESS	0.0	0.0	0.01399	0.26	0.00299
GRAIN PROCESS	0.0	0.0	0.00632	0.08	0.00090
OTHER FOOD PROC	0.0	0.0	0.02278	0.34	0.00394
PRINT,PUBLISH	0.06	0.00058	0.00405	0.53	0.00618
CHEMICALS	0.00	0.00002	0.00589	0.10	0.00117
LOG AND SAW	0.0	0.0	0.00671	0.53	0.00619
MILLWORK,OTHER	0.0	0.0	0.00795	0.29	0.00341
PETR.REFINE	0.30	0.00279	0.02256	0.20	0.00230
PRIMARY METAL	0.05	0.00042	0.00651	0.62	0.00725
FABRIC METAL	0.00	0.00000	0.00175	0.09	0.00104
STONE,CLAY,GLA	0.00	0.00000	0.00427	0.21	0.00248
OTHER MANUFAC.	0.50	0.00469	0.03764	1.43	0.01671
RAILROAD TRANS	0.03	0.00027	0.00743	1.45	0.01694
MOTOR FREIGHT	0.15	0.00137	0.02535	1.57	0.01825
COMMUNICATIONS	1.96	0.01821	1.03610	1.96	0.02285
UTILITIES	0.89	0.00823	0.04724	0.67	0.00785
WHOLESALE TRADE	0.34	0.00320	0.03876	2.86	0.03333
RETAIL TRADE	0.54	0.00502	0.11006	4.05	0.04723
FIRE	2.97	0.02758	0.19836	8.95	0.10422
PERSONAL SERVICE	4.42	0.04106	0.07883	1.26	0.01471
BUSINESS,REPAIR	2.06	0.01912	0.04564	1.12	0.01307
PROFESS.SERVICE	0.36	0.00332	0.04755	1.90	0.02216
FED.ENTER.	0.17	0.00161	0.00539	0.05	0.00054
STATE LOC ENTER	0.02	0.00022	0.00111	0.13	0.00151
DIRECT IMPORT	0.61	0.00565	0.0	0.0	0.0
TRANSFER IMPORTS	5.82	0.05404	0.0	0.0	0.0
DUMMY 1	1.28	0.01184	0.02078	0.0	0.0
DUMMY 2	0.34	0.00313	0.00615	0.0	0.0
DUMMY 3	0.00	0.00000	0.0	0.0	0.0
GOV INDUSTRY	0.0	0.0	0.0	0.0	0.0
REST OF WORLD	0.0	0.0	0.0	0.0	0.0
HOUSEHOLD INDUST	0.0	0.0	0.0	0.0	0.0
INVENTORY VAL	0.0	0.0	0.0	0.0	0.0
VALUE ADDED	62.86	0.76938	0.56897	0.0	0.0
CONSUMPTION EXP.				26.02	0.30307
CAPITAL FORM				3.99	0.04649
INVENTORY CHANGE				0.0	0.0
EXPORTS				10.78	0.12551
FED GOV				6.54	0.07615
STATE AND LOCAL				3.58	0.04170

OUTPUT 107.70

SECTOR 27 UTILITIES

	REQUIREMENTS			SALES	
	TRANSACTIONS	DIRECT	TOTAL	TRANSACTIONS	FRACTION
DAIRY	0.0	0.0	0.00214	0.09	0.00038
LIVESTOCK	0.0	0.0	0.01132	1.07	0.00464
GRAINS	0.0	0.0	0.00278	1.92	0.00835
OTHER CROPS	0.0	0.0	0.00842	2.94	0.01277
AG SERVICE,FORES	0.0	0.0	0.00117	0.01	0.00005
FORFST	0.0	0.0	0.00114	3.91	0.01701
COAL	6.06	0.02852	0.04309	0.36	0.00158
PETROL'M NAT. GAS	12.37	0.05821	0.08726	1.12	0.00490
OTHER MINING	0.0	0.0	0.00199	2.13	0.00925
CONSTRUCTION	5.73	0.02699	0.04287	0.28	0.00124
MEAT PROCESS	0.0	0.0	0.01567	0.66	0.00286
DAIRY PROCESS	0.0	0.0	0.00868	0.38	0.00165
GRAIN PROCESS	0.0	0.0	0.00395	0.40	0.00176
OTHER FOOD PROC	0.0	0.0	0.01414	0.44	0.00190
PRINT,PUBLISH	0.02	0.00008	0.00220	0.19	0.00083
CHEMICALS	0.09	0.00042	0.00498	0.83	0.00362
LOG AND SAW	0.0	0.0	0.00580	2.73	0.01186
MILLWORK,OTHER	0.0	0.0	0.00613	0.79	0.00343
PETR.REFINE	1.84	0.00868	0.02610	4.26	0.01855
PRIMARY METAL	0.02	0.00010	0.00855	22.32	0.09709
FABRIC METAL	0.03	0.00015	0.00204	0.12	0.00054
STONE,CLAY,GLA	0.0	0.0	0.00531	1.77	0.00772
OTHER MANUFAC.	0.35	0.00164	0.02458	3.86	0.01678
RAILROAD TRANS	2.70	0.01271	0.02256	1.62	0.00707
MOTOR FREIGHT	0.94	0.00442	0.02234	0.69	0.00301
COMMUNICATIONS	0.67	0.00317	0.01563	0.89	0.00385
UTILITIES	46.65	0.21955	1.30689	46.65	0.20296
WHOLESALE TRADE	0.79	0.00373	0.02910	1.05	0.00458
RETAIL TRADE	0.36	0.00170	0.06887	10.82	0.04708
FIRE	2.41	0.01132	0.13974	6.14	0.02670
PERSONAL SERVICE	0.33	0.00155	0.02405	3.78	0.01644
BUSINESS,REPAIR	1.00	0.00470	0.02463	0.41	0.00178
PROFESS.SERVICE	0.38	0.00179	0.03151	5.03	0.02189
FED.ENTER.	0.31	0.00144	0.00434	0.31	0.00135
STATE LOC ENTER	0.01	0.00007	0.00065	3.40	0.01480
DIRECT IMPORT	0.0	0.0	0.0	0.0	0.0
TRANSFER IMPORTS	8.39	0.03946	0.0	0.0	0.0
DUMMY 1	0.87	0.00409	0.01145	0.0	0.0
DUMMY 2	0.21	0.00098	0.00336	0.0	0.0
DUMMY 3	0.0	0.0	0.0	0.0	0.0
GOV INDUSTRY	0.0	0.0	0.0	0.0	0.0
REST OF WORLD	0.0	0.0	0.0	0.0	0.0
HOUSEHOLD INDUST	0.0	0.0	0.0	0.0	0.0
INVENTORY VAL	0.0	0.0	0.0	0.0	0.0
VALUE ADDED	119.97	0.56454	0.35400	0.0	0.0
CONSUMPTION EXP.				46.27	0.20125
CAPITAL FORM				0.0	0.0
INVENTORY CHANGE				0.0	0.0
EXPORTS				34.21	0.14884
FED GOV				4.14	0.01800
STATE AND LOCAL				11.86	0.05161

OUTPUT $40.50

SECTOR 26 WHOLESALE TRADE

	REQUIREMENTS			SALES	
	TRANSACTIONS	DIRECT	TOTAL	TRANSACTIONS	FRACTION
DAIRY	0.0	0.0	0.00449	0.25	0.00139
LIVESTOCK	0.0	0.0	0.02454	8.49	0.04706
GRAINS	0.0	0.0	0.00584	6.21	0.03443
OTHER CROPS	0.0	0.0	0.01790	3.47	0.01922
AG SERVICE,FORES	0.22	0.00129	0.00347	0.08	0.00043
COPPER	0.0	0.0	0.00078	1.19	0.00657
COAL	0.0	0.0	0.00246	0.26	0.00144
PETROLM NAT. GAS	0.0	0.0	0.01655	0.48	0.00265
OTHER MINING	0.0	0.0	0.00156	0.70	0.00389
CONSTRUCTION	0.19	0.00112	0.01104	12.14	0.06731
MEAT PROCESS	0.0	0.0	0.03404	1.63	0.00905
DAIRY PROCESS	0.0	0.0	0.01820	1.26	0.00707
GRAIN PROCESS	0.0	0.0	0.00820	1.69	0.00937
OTHER FOOD PROC	0.0	0.0	0.02964	1.57	0.00870
PRINT,PUBLISH	0.06	0.00033	0.00474	0.54	0.00298
CHEMICALS	0.01	0.00004	0.00748	0.43	0.00241
LOG AND SAW	0.00	0.00001	0.00814	4.56	0.02539
MILLWORK,OTHER	0.32	0.00183	0.01134	2.56	0.01422
PETR.REFINE	1.84	0.01065	0.03657	1.43	0.00793
PRIMARY METAL	0.0	0.0	0.00590	5.95	0.03300
FABRIC METAL	0.00	0.00001	0.00190	0.28	0.00153
STONE,CLAY,GLA	0.14	0.00079	0.00478	0.67	0.00371
OTHER MANUFAC.	0.68	0.00391	0.04575	6.64	0.03680
RAILROAD TRANS	0.09	0.00053	0.00978	1.51	0.00839
MOTOR FREIGHT	2.42	0.01402	0.04961	3.68	0.02040
COMMUNICATIONS	2.86	0.01654	0.03978	0.34	0.00191
UTILITIES	1.05	0.00608	0.05407	0.79	0.00439
WHOLESALE TRADE	2.77	0.01600	1.06147	2.77	0.01535
RETAIL TRADE	2.91	0.01683	0.15187	3.02	0.01677
FIRE	9.20	0.05317	0.27342	2.26	0.01253
PERSONAL SERVICE	0.33	0.00193	0.05079	1.43	0.00794
BUSINESS,REPAIR	6.20	0.03585	0.07060	2.51	0.01390
PROFESS.SERVICE	3.31	0.01913	0.07570	2.25	0.01248
FED.ENTER.	0.27	0.00158	0.00662	0.12	0.00068
STATE LOC ENTER	0.09	0.00050	0.00166	0.22	0.00121
DIRECT IMPORT	0.10	0.00059	0.0	0.0	0.0
TRANSFER IMPORTS	9.71	0.05613	0.0	0.0	0.0
DUMMY 1	4.62	0.02669	0.03795	0.0	0.0
DUMMY 2	0.72	0.00417	0.00827	0.0	0.0
DUMMY 3	0.00	0.00001	0.0	0.0	0.0
GOV INDUSTRY	0.0	0.0	0.0	0.0	0.0
REST OF WORLD	0.0	0.0	0.0	0.0	0.0
HOUSEHOLD INDUST	0.0	0.0	0.0	0.0	0.0
INVENTORY VAL	0.0	0.0	0.0	0.0	0.0
VALUE ADDED	122.87	0.71026	0.72642	0.0	0.0
CONSUMPTION EXP.				69.65	0.38629
CAPITAL EQUIP				6.51	0.04715
INVENTORY CHANGE				1.19	0.00659
EXPORTS				0.0	0.0
FED GOV				13.41	0.07440
STATE AND LOCAL				4.15	0.02303

SECTOR 20 FIRE

	REQUIREMENTS			SALES	
	TRANSACTIONS	DIRECT	TOTAL	TRANSACTIONS	FRACTION
DAIRY	0.0	0.0	0.00201	0.49	0.00081
LIVESTOCK	0.0	0.0	0.01116	10.38	0.01704
GRAINS	0.0	0.0	0.00269	31.01	0.05088
OTHER CROPS	0.01	0.00002	0.00851	10.36	0.01700
AG SERVICE,FORES	0.06	0.00011	0.00115	0.39	0.00064
COPPER	0.0	0.0	0.00054	5.05	0.00829
COAL	0.03	0.00005	0.00182	0.96	0.00158
PETROLM NAT. GAS	0.0	0.0	0.00755	16.80	0.02584
OTHER MINING	0.01	0.00002	0.00107	3.05	0.00501
CONSTRUCTION	5.30	0.00994	0.01726	4.99	0.00818
MEAT PROCESS	0.0	0.0	0.01547	0.73	0.00119
DAIRY PROCESS	0.0	0.0	0.00815	0.57	0.00094
GRAIN PROCESS	0.0	0.0	0.00373	0.32	0.00052
OTHER FOOD PROC	0.0	0.0	0.01317	1.17	0.00192
PRINT,PUBLISH	1.94	0.00363	0.00721	1.14	0.00187
CHEMICALS	0.04	0.00008	0.00383	0.77	0.00127
LOG AND SAW	0.0	0.0	0.00423	3.25	0.00533
MILLWORK,OTHER	0.0	0.0	0.00467	1.45	0.00237
PETR.REFINE	1.00	0.00187	0.01429	7.96	0.01306
PRIMARY METAL	0.0	0.0	0.00404	4.44	0.00729
FABRIC METAL	0.00	0.00000	0.00142	0.29	0.00047
STONE,CLAY,GLA	0.00	0.00001	0.00302	1.26	0.00207
OTHER MANUFAC.	0.86	0.00161	0.02474	3.95	0.00648
RAILROAD TRANS	0.14	0.00026	0.00576	10.16	0.01667
MOTOR FREIGHT	0.77	0.00144	0.01991	4.61	0.00756
COMMUNICATIONS	8.95	0.01678	0.03097	2.97	0.00487
UTILITIES	6.14	0.01151	0.03926	2.41	0.00395
WHOLESALE TRADE	2.26	0.00424	0.02701	9.20	0.01509
RETAIL TRADE	2.72	0.00511	0.06678	38.72	0.06353
FIRE	85.32	0.15998	1.28791	85.32	0.13998
PERSONAL SERVICE	2.61	0.00489	0.02909	11.13	0.01826
BUSINESS,REPAIR	23.93	0.04487	0.06933	4.30	0.00706
PROFESS.SERVICE	10.58	0.01984	0.04913	9.77	0.01602
FED.ENTER.	5.47	0.01025	0.01451	0.61	0.00100
STATE LOC ENTER	0.11	0.00021	0.00078	0.95	0.00156
DIRECT IMPORT	0.36	0.00067	0.0	0.0	0.0
TRANSFER IMPORTS	42.10	0.07895	0.0	0.0	0.0
DUMMY 1	6.64	0.01246	0.02083	0.0	0.0
DUMMY 2	5.27	0.00988	0.01362	0.0	0.0
DUMMY 3	0.01	0.00001	0.0	0.0	0.0
GOV INDUSTRY	0.0	0.0	0.0	0.0	0.0
REST OF WORLD	0.0	0.0	0.0	0.0	0.0
HOUSEHOLD INDUST	0.0	0.0	0.0	0.0	0.0
INVENTORY VAL	0.0	0.0	0.0	0.0	0.0
VALUE ADDED	320.68	0.60120	0.31569	0.0	0.0
CONSUMPTION EXP.				303.71	0.49830
CAPITAL FORM				1.68	0.00275
INVENTORY CHANGE				-0.00	-0.00001
EXPORTS				0.0	0.0
FED GOV				3.96	0.00650
STATE AND LOCAL				7.21	0.01183

SECTOR 31 PERSONAL SERVICE

	REQUIREMENTS			SALES	
	TRANSACTIONS	DIRECT	TOTAL	TRANSACTIONS	FRACTION
DAIRY	0.0	0.0	0.00394	0.13	0.00111
LIVESTOCK	0.03	0.00025	0.02197	0.11	0.00097
GRAINS	0.19	0.00162	0.00693	0.11	0.00093
OTHER CROPS	0.0	0.0	0.01588	0.01	0.00010
AG SERVICE,FORES	0.04	0.00036	0.00239	0.00	0.00000
COPPER	0.0	0.0	0.00104	0.12	0.00101
COAL	0.03	0.00028	0.00282	0.01	0.00007
PETROLM NAT. GAS	0.0	0.0	0.01700	0.03	0.00029
OTHER MINING	0.0	0.0	0.00212	0.02	0.00020
CONSTRUCTION	1.70	0.01436	0.02550	0.28	0.00240
MEAT PROCESS	0.0	0.0	0.02979	0.13	0.00110
DAIRY PROCESS	0.0	0.0	0.01593	0.15	0.00131
GRAIN PROCESS	0.00	0.00003	0.00726	0.05	0.00040
OTHER FOOD PROC	0.0	0.0	0.02596	0.11	0.00100
PRINT.PUBLISH	0.39	0.00325	0.00743	0.10	0.00089
CHEMICALS	0.45	0.00379	0.01108	0.04	0.00036
LOG AND SAW	0.0	0.0	0.00840	0.06	0.00051
MILLWORK,OTHER	0.05	0.00039	0.00948	0.03	0.00029
PETR.REFINE	1.07	0.00902	0.03283	0.14	0.00122
PRIMARY METAL	0.02	0.00013	0.00782	0.11	0.00100
FABRIC METAL	0.07	0.00061	0.00266	0.05	0.00042
STONE,CLAY,GLA	0.18	0.00152	0.00644	0.04	0.00039
OTHER MANUFAC.	1.52	0.01280	0.05085	0.35	0.00307
RAILROAD TRANS	0.13	0.00109	0.01039	0.28	0.00243
MOTOR FREIGHT	0.61	0.00518	0.03687	0.16	0.00139
COMMUNICATIONS	1.26	0.01065	0.03256	4.42	0.03854
UTILITIES	3.78	0.03187	0.08456	0.33	0.00286
WHOLESALE TRADE	1.43	0.01207	0.05851	0.33	0.00290
RETAIL TRADE	0.93	0.00782	0.12732	2.76	0.02407
FIRE	11.13	0.09386	0.30143	2.61	0.02273
PERSONAL SERVICE	4.77	0.04018	1.08491	4.77	0.04151
BUSINESS,PROFID	2.69	0.02270	0.05729	0.28	0.00242
PROFESS.SERVICE	1.24	0.01043	0.06205	1.05	0.00919
FED.ENTER.	0.32	0.00268	0.00787	0.02	0.00014
STATE LOC ENTER	0.08	0.00064	0.00168	0.02	0.00013
DIRECT IMPORT	0.13	0.00107	0.0	0.0	0.0
TRANSFER IMPORTS	11.96	0.10082	0.0	0.0	0.0
DUMMY 1	2.53	0.02136	0.03311	7.97	0.06939
DUMMY 2	0.24	0.00200	0.00630	0.0	0.0
DUMMY 3	0.00	0.00002	0.0	0.01	0.00007
GOV INDUSTRY	0.0	0.0	0.0	0.0	0.0
REST OF WORLD	0.0	0.0	0.0	0.0	0.0
HOUSEHOLD INDUST	0.0	0.0	0.0	0.0	0.0
INVENTORY VAL	0.0	0.0	0.0	0.0	0.0
VALUE ADDED	69.63	0.58714	0.63618	0.0	0.0
CONSUMPTION EXP.				74.11	0.64559
CAPITAL FORM				0.0	0.0
INVENTORY CHANGE				-0.07	-0.00064
EXPORTS				0.0	0.0
FED GOV				12.77	0.11122
STATE AND LOCAL				0.81	0.00703

OUTPUT 118.48

SECTOR 32 BUSINESS,REPAIR

	REQUIREMENTS			SALES	
	TRANSACTIONS	DIRECT	TOTAL	TRANSACTIONS	FRACTION
DAIRY	0.0	0.0	0.00376	0.06	0.00043
LIVESTOCK	0.0	0.0	0.01994	1.29	0.00991
GRAINS	0.0	0.0	0.00491	7.18	0.05522
OTHER CROPS	0.0	0.0	0.01487	2.36	0.01814
AG SERVICE,FORES	0.0	0.0	0.00197	0.00	0.00002
COPPER	0.0	0.0	0.00157	0.80	0.00614
COAL	0.00	0.00002	0.00243	0.22	0.00167
PETROLM NAT. GAS	0.0	0.0	0.01323	0.59	0.00456
OTHER MINING	0.0	0.0	0.00287	1.15	0.00883
CONSTRUCTION	0.42	0.00488	0.01372	4.76	0.03659
MEAT PROCESS	0.0	0.0	0.02756	0.58	0.00447
DAIRY PROCESS	0.0	0.0	0.01523	0.66	0.00506
GRAIN PROCESS	0.0	0.0	0.00700	0.84	0.00648
OTHER FOOD PROC	0.0	0.0	0.02478	1.35	0.01037
PRINT,PUBLISH	0.01	0.00017	0.00395	0.90	0.00690
CHEMICALS	0.18	0.00216	0.00911	0.44	0.00336
LOG AND SAW	0.0	0.0	0.00965	2.47	0.01899
MILLWORK,OTHER	0.0	0.0	0.00883	0.73	0.00561
PETR.REFINE	0.55	0.00640	0.02858	3.91	0.03012
PRIMARY METAL	0.01	0.00016	0.01181	2.51	0.01931
FABRIC METAL	0.68	0.00795	0.00978	0.14	0.00107
STONE,CLAY,GLA	0.65	0.00757	0.01236	0.61	0.00470
OTHER MANUFAC.	2.83	0.03308	0.07005	3.28	0.02527
RAILROAD TRANS	0.25	0.00291	0.01169	0.98	0.00754
MOTOR FREIGHT	0.50	0.00580	0.03309	3.16	0.02428
COMMUNICATIONS	1.12	0.01313	0.03328	2.06	0.01584
UTILITIES	0.41	0.00479	0.04732	1.00	0.00768
WHOLESALE TRADE	2.51	0.02931	0.06896	6.20	0.04771
RETAIL TRADE	1.59	0.01865	0.12270	12.54	0.09649
FIRE	4.30	0.05035	0.23999	23.93	0.18410
PERSONAL SERVICE	0.26	0.00325	0.04224	2.69	0.02072
BUSINESS,REPAIR	1.07	0.01256	1.04344	1.07	0.00826
PROFESS.SERVICE	0.82	0.00953	0.05820	2.00	0.01535
FED.ENTER.	0.46	0.00535	0.00967	0.30	0.00230
STATE LOC ENTER	0.02	0.00018	0.00116	0.55	0.00424
DIRECT IMPORT	0.0	0.0	0.0	0.0	0.0
TRANSFER IMPORTS	13.03	0.15234	0.0	0.0	0.0
DUMMY 1	0.89	0.01042	0.02064	0.0	0.0
DUMMY 2	0.30	0.00349	0.00709	0.0	0.0
DUMMY 3	0.09	0.00110	0.0	0.0	0.0
GOV INDUSTRY	0.0	0.0	0.0	0.0	0.0
REST OF WORLD	0.0	0.0	0.0	0.0	0.0
HOUSEHOLD INDUST	0.0	0.0	0.0	0.0	0.0
INVENTORY VAL	0.0	0.0	0.0	0.0	0.0
VALUE ADDED	52.54	0.61445	0.61934	0.0	0.0
CONSUMPTION EXP.				16.96	0.13045
CAPITAL FORM				0.0	0.0
INVENTORY CHANGE				0.0	0.0
EXPORTS				0.0	0.0
FED GOV				14.27	0.10977
STATE AND LOCAL				5.46	0.04204

SECTOR 34 FED.ENTER.

	REQUIREMENTS			SALES	
	TRANSACTIONS	DIRECT	TOTAL	TRANSACTIONS	FRACTION
DAIRY	0.0	0.0	0.00881	0.00	0.00007
LIVESTOCK	0.0	0.0	0.03993	0.02	0.00115
GRAINS	0.05	0.00295	0.01592	0.01	0.00106
OTHER CROPS	0.70	0.03913	0.06895	0.00	0.00016
AG SERVICE,FORES	0.0	0.0	0.00488	0.00	0.00005
COPPER	0.0	0.0	0.00153	0.06	0.00460
COAL	0.17	0.00930	0.01496	0.01	0.00036
PETROLM NAT. GAS	0.0	0.0	0.02542	0.02	0.00163
OTHER MINING	0.0	0.0	0.00312	0.02	0.00154
CONSTRUCTION	0.11	0.00585	0.02447	0.06	0.00407
MEAT PROCESS	0.0	0.0	0.05256	0.02	0.00142
DAIRY PROCESS	0.08	0.00427	0.03514	0.02	0.00138
GRAIN PROCESS	0.12	0.00658	0.02224	0.01	0.00087
OTHER FOOD PROC	0.04	0.00249	0.05232	0.03	0.00219
PRINT,PUBLISH	0.02	0.00123	0.00776	0.13	0.00934
CHEMICALS	0.02	0.00086	0.01470	0.01	0.00077
LOG AND SAW	0.0	0.0	0.01235	0.06	0.00434
MILLWORK,OTHER	0.0	0.0	0.01584	0.03	0.00212
PETR.REFINE	0.11	0.00585	0.05352	0.07	0.00485
PRIMARY METAL	0.00	0.00012	0.01154	0.05	0.00381
FABRIC METAL	0.00	0.00010	0.00307	0.01	0.00043
STONE,CLAY,GLA	0.00	0.00010	0.00675	0.01	0.00096
OTHER MANUFAC.	0.04	0.00238	0.07076	0.13	0.00924
RAILROAD TRANS	0.94	0.05208	0.07001	0.13	0.00965
MOTOR FREIGHT	1.50	0.08327	0.13542	0.08	0.00613
COMMUNICATIONS	0.05	0.00259	0.04008	0.17	0.01255
UTILITIES	0.31	0.01718	0.09860	0.31	0.02226
WHOLESALE TRADE	0.12	0.00685	0.08495	0.27	0.01986
RETAIL TRADE	0.03	0.00146	0.22745	1.24	0.09036
FIRE	0.61	0.03370	0.39741	5.47	0.39677
PERSONAL SERVICE	0.02	0.00091	0.07186	0.32	0.02311
BUSINESS,REPAIR	0.30	0.01660	0.07181	0.46	0.03318
PROFESS.SERVICE	0.02	0.00110	0.09511	0.38	0.02774
FED.ENTER.	0.00	0.00014	1.00760	0.00	0.00018
STATE LOC ENTER	0.00	0.00011	0.00213	0.02	0.00128
DIRECT IMPORT	0.80	0.04441	0.0	0.0	0.0
TRANSFER IMPORTS	0.97	0.05387	0.0	0.0	0.0
DUMMY 1	0.07	0.00363	0.01989	0.0	0.0
DUMMY 2	0.01	0.00078	0.00676	0.0	0.0
DUMMY 3	0.0	0.0	0.0	0.0	0.0
GOV INDUSTRY	0.0	0.0	0.0	0.0	0.0
REST OF WORLD	0.0	0.0	0.0	0.0	0.0
HOUSEHOLD INDUST	0.0	0.0	0.0	0.0	0.0
INVENTORY VAL	0.0	0.0	0.0	0.0	0.0
VALUE ADDED	10.80	0.60016	1.24637	0.0	0.0
CONSUMPTION EXP.				1.84	0.13336
CAPITAL FORM				0.0	0.0
INVENTORY CHANGE				0.0	0.0
EXPORTS				0.0	0.0
FED GOV				1.53	0.11115
STATE AND LOCAL				0.77	0.05600
OUTPUT	18.00				

SECTOR 35 STATE LOC ENTER

	REQUIREMENTS			SALES	
	TRANSACTIONS	DIRECT	TOTAL	TRANSACTIONS	FRACTION
DAIRY	0.0	0.0	0.00311	0.00	0.00009
LIVESTOCK	0.0	0.0	0.01633	0.01	0.00269
GRAINS	0.0	0.0	0.00403	0.0	0.0
OTHER CROPS	0.00	0.00005	0.01221	0.00	0.00004
AG SERVICE,FORES	0.01	0.00018	0.00209	0.0	0.0
COPPER	0.0	0.0	0.00218	0.0	0.0
COAL	0.21	0.00720	0.01501	0.0	0.0
PETROL & NAT. GAS	0.0	0.0	0.02320	0.0	0.0
OTHER MINING	0.01	0.00039	0.00501	0.0	0.0
CONSTRUCTION	3.82	0.13206	0.14416	0.08	0.01502
MEAT PROCESS	0.0	0.0	0.02260	0.01	0.00235
DAIRY PROCESS	0.0	0.0	0.01261	0.01	0.00157
GRAIN PROCESS	0.0	0.0	0.00574	0.00	0.00052
OTHER FOOD PROC	0.0	0.0	0.02054	0.01	0.00155
PRINT,PUBLISH	0.03	0.00089	0.00392	0.00	0.00043
CHEMICALS	0.13	0.00438	0.01105	0.01	0.00121
LOG AND SAW	0.0	0.0	0.01126	0.04	0.00766
MILLWORK,OTHER	0.0	0.0	0.01239	0.00	0.00001
PETR.REFINE	0.29	0.00992	0.03328	0.00	0.00057
PRIMARY METAL	0.02	0.00086	0.01646	0.06	0.01255
FABRIC METAL	0.01	0.00021	0.00431	0.00	0.00007
STONE,CLAY,GLA	0.02	0.00062	0.01385	0.00	0.00032
OTHER MANUFAC.	0.10	0.00350	0.03645	0.03	0.00640
RAILROAD TRANS	0.12	0.00425	0.01494	0.02	0.00411
MOTOR FREIGHT	0.19	0.00671	0.03178	0.27	0.05297
COMMUNICATIONS	0.13	0.00448	0.02189	0.02	0.00478
UTILITIES	3.40	0.11773	0.18616	0.01	0.00282
WHOLESALE TRADE	0.22	0.00752	0.04541	0.09	0.01713
RETAIL TRADE	0.05	0.00179	0.10211	0.15	0.03051
FIRE	0.95	0.03295	0.19619	0.11	0.02255
PERSONAL SERVICE	0.02	0.00053	0.02233	0.08	0.01494
BUSINESS.REPAIR	0.55	0.01905	0.04665	0.02	0.00305
PROFESS.SERVICE	0.13	0.00459	0.04866	0.09	0.01824
FED.ENTER.	0.02	0.00061	0.00441	0.00	0.00041
STATE LOC ENTER	0.01	0.00039	1.00124	0.01	0.00222
DIRECT IMPORT	0.0	0.0	0.0	0.0	0.0
TRANSFER IMPORTS	2.58	0.08914	0.0	0.0	0.0
DUMMY 1	0.15	0.00502	0.01464	0.0	0.0
DUMMY 2	0.05	0.00158	0.00469	0.0	0.0
DUMMY 3	0.00	0.00001	0.0	0.0	0.0
GOV INDUSTRY	0.0	0.0	0.0	0.0	0.0
REST OF WORLD	0.0	0.0	0.0	0.0	0.0
HOUSEHOLD INDUST	0.0	0.0	0.0	0.0	0.0
INVENTORY VAL	0.0	0.0	0.0	0.0	0.0
VALUE ADDED	15.70	0.54358	0.51568	0.0	0.0
CONSUMPTION EXP.				1.79	0.35570
CAPITAL EXPN				0.0	0.0
INVENTORY CHANGE				0.0	0.0
EXPORTS				0.0	0.0
FED GOV				2.01	0.39816
STATE AND LOCAL				0.10	0.01934
OUTPUT	28.90				

A P P E N D I X III

Deomgraphic Model

DESCRIPTION OF COHORT SURVIVAL MODEL

The cohort survival model, though not directly linked to the impact model, is a useful tool in the exploration of the effects of changing age structure over time. This type of analysis was utilized to clarify the changes in labor force structure and dependency ratios in the process of building the impact model. In addition, the model can be used to make natural population growth comparisons with forecasts of population levels from the impact model.

The structure of the cohort model as well as the relevant data series are detailed in Appendix III. The feature which distinguishes it from the usual birth and death cohort model is the treatment of three special populations -- college students, military personnel and families associated with Malmstrom Air Force base and Indians. Specifically, the college student and military related population are removed from the cohort survival process. The rationale is that these two population groups exhibit such high turnover that, though the people change, the characteristics of the population do not. The Indian subpopulation is separated in order to apply Indian specific fertility rates.

Because the differences between Montana and United States figures are minimal, the cohort utilizes United States single year survival rates which trend towards an ultimate rate for the year 2000 provided by the Bureau of Census. Fertility rates are Montana specific. Non-Indian fertility rates converge with national rates in 1990. Indian fertility rates parallel national rates and thus do not converge in the model. The user has the option to choose one of three national fertility rate projections.

The cohort model produces a single year of age breakdown for the fourteen Labor Market Areas. Several print options are available to pre-

sent the data in a more aggregated form as well as more birth and death detail.

LIST OF VARIABLES - DEMOGRAPHIC MODEL

LMA_{ijkt} - Labor Market Area Population i = LMA # 1 - 14
j = Age cohort 0 - 85
k = Sex 1 - male 2 - female
t = Time 0 (1970) - 20 (1990)

N S LMA _ LMA Population with college students removed

N S M LMA - LMA Population with college and military-related population removed

M_{ijk} - Military-related population - Malmstrom Air base i = 1

C_{ijk} - College students i = 2, 3, 4, 8, 13
j = 19-23

SR_{jkt} - Survival rate

IWC_{jk} - Yearly increment in survival rate

FER_{nt} - Non-Indian fertility rate n = 15-45

FT_{rt} - Five year cohort fertility rate for non-Indian r = 1-7

$INDFT_{rt}$ - Five year cohort fertility rate for Indians

$NIPOP_{ijkt}$ - LMA population with Indians, college students and military removed

IND_{ijkt} - Indian population i = 2, 5, 7, 8, 10, 12, 13, 14

Equations

$N\ S\ LMA_{ijkt} = LMA_{ijkt} - C_{ijk}$

$N\ S\ M\ LMA_{ijkt} = N\ S\ LMA_{ijkt} - M_{ijk}$

$N\ I\ POP_{ijkt} = N\ S\ M\ LMA_{ijkt} - IND_{ijkt}$

$N\ I\ POP_{ijk\ t+1} = N\ I\ POP_{i\ j-1\ tk} \times SR_{j-1\ tk}$ j = 1 to 84

Equations, Continued

$$N\ I\ POP_{i\ 85\ k\ t+1} = (N\ I\ POP_{i\ 85\ k\ t} + N\ I\ POP_{i\ 84\ k\ t}) \times SR_{84\ k\ t}$$

$$N\ I\ POP_{iok\ t+1} = F_k \sum_{n=15}^{45} FER_{nt} \times (N\ I\ POP_{in2t} + (N\ I\ POP_{in+1\ 2\ t}/SR_{n\ 2\ t}))\ /2$$

$$F_k = \begin{cases} .51 & k=1 \\ .49 & k=2 \end{cases}$$

$$IND_{ijk\ t+1} = IND_{i\ j-1\ t\ k} \times SR_{j-1\ t\ k} \qquad j = 1 \text{ to } 84$$

$$IND_{i\ 85\ k\ t+1} = (IND_{i\ 85\ k\ t} + IND_{i\ 84\ k\ t}) \times SR_{84\ k\ t}$$

$$IND_{c\ o\ k\ t+1} = F_k \sum_{n=15}^{45} INDFER_{nt}\ (IND_{in2t} + (IND_{i\ n+1\ 2\ t}/SRn\ 2\ t))/2$$

$$SR_{i\ t+1\ k} = SR_{jtk} + INC_{jk}$$

$$FER_{j\ t+1} = FER_{jt} \times (FT_{r\ t+1}/\ FT_{rt})$$

$$IND\ FER_{j\ t+1} = IND\ FER_{jt} \times (IND\ FT_{r\ t+1}\ /IND\ FT_{rt})$$

r =	15-19	20-24	25-29	30-34	35-39	40-44	45
j =	1	2	3	4	5	6	7

$$FT_{rt} = (\text{Montana Fertility}_{r\ 1970} - \text{U. S. Fertility}_{r\ 1970})^{\ t/20} + \text{U. S. Fertility}_{rt}$$

$$IND\ FT_{ri} = (\text{Indian Fertility}_{r\ 1970} - \text{U. S. Fertility}_{r\ 1970})^{t/20_r} \qquad r=1 - 7$$

U. S. Fertility

Population of LMA's - Montana 1970

	LMA	Total		Indian *	
		M	F	M	F
1	Great Falls	40965	40839		
2	Billings	42460	44907	614	698
3	Anaconda-Butte	40058	40173		
4	Bozeman	23279	22545		
5	Glasgow	18275	17809	2236	2245
6	Glendive	14577	14417		
7	Hardin-Red Lodge	12443	12306	1993	2114
8	Havre	13466	12978	1648	1620
9	Helena	20034	21011		
10	Kalispell	36186	35782	1496	1403
11	Lewistown	11767	11380		
12	Miles City	14004	14139	977	1030
13	Missoula	41427	41296	713	737
14	Shelby	18032	17790	2671	2759

*For Those LMA's with Reservations

Source: 1970 Census

Montana Fertility Rates Per 1000

Age	White	Indian
15	6.15	24.04
16	23.09	79.85
17	49.42	143.39
18	105.85	220.50
19	199.92	334.55
20	208.88	342.63
21	233.34	322.77
22	230.24	355.26
23	199.67	305.31
24	220.00	297.80
25	181.51	256.01
26	166.82	240.08
27	143.56	184.43
28	135.88	167.50
29	111.63	187.76
30	90.89	137.06
31	73.95	154.00
32	73.18	142.25
33	56.77	104.05
34	49.71	120.00
35	37.92	62.93
36	37.74	60.61
37	29.43	53.17
38	26.83	75.52
39	20.20	49.65
40	15.68	33.73
41	10.01	27.78
42	8.03	19.32
43	6.25	13.89
44	3.37	2.58
45	2.43	3.37

Source: Derived from Censes and Birth Information

U.S. Fertility Rates & Projections

Rates Represent Live Births Per 1,000 Women

Series and year (calendar year)	Total fertility rate[1]	Central birth rates[2]							Mean age of child-bearing	Median age of child-bearing
		10 to 14 years	15 to 19 years	20 to 24 years	25 to 29 years	30 to 34 years	35 to 39 years	40 to 44 years	45 to 49 years	
ESTIMATES										
1925	3,012.9	0.6	62.0	160.2	151.7	112.9	80.9	30.1	4.2	28.31	27.47
1930	2,534.9	0.8	58.1	138.3	128.0	93.7	63.7	23.5	3.1	28.02	27.15
1935	2,180.0	0.6	50.2	124.5	111.3	79.0	51.6	18.4	2.4	27.74	26.84
1940	2,231.8	0.6	52.5	132.7	119.8	78.8	45.4	14.9	1.7	27.30	26.42
1945	2,423.7	0.7	49.7	133.2	131.5	96.9	54.8	16.3	1.5	27.79	27.14
1950	3,031.2	1.0	78.5	192.1	164.5	101.7	52.9	14.4	1.1	26.71	25.83
1955	3,502.3	1.0	88.9	234.4	186.4	114.7	58.5	15.6	1.0	26.56	25.58
1960	3,608.4	1.0	89.3	249.8	195.4	113.1	56.8	15.4	1.0	26.43	25.45
1965	2,884.7	0.8	72.2	192.4	157.4	93.7	46.6	12.9	0.8	26.55	25.62
1970	2,434.1	1.2	69.3	164.6	139.4	71.6	32.0	8.3	0.5	26.03	25.25
1971	2,249.1	1.1	65.9	150.4	129.7	66.1	28.8	7.3	0.5	25.98	25.25
1972	1,997.0	1.2	63.2	129.7	115.1	58.5	24.9	6.4	0.4	25.88	25.21
1973[3]	1,868.6	1.2	60.6	120.0	109.4	54.3	22.3	5.6	0.4	25.80	25.20
PROJECTIONS											
SERIES I											
1974	1,864.0	1.2	61.1	118.3	108.9	53.7	21.8	5.4	0.4	25.77	25.18
1975	1,981.2	1.1	65.4	131.1	117.0	54.7	21.7	5.4	0.4	25.62	25.03
1976	2,088.8	1.1	68.0	140.0	124.6	56.3	21.9	5.4	0.4	25.58	24.99
1977	2,172.3	1.1	69.1	146.9	131.1	58.2	22.3	5.5	0.4	25.58	25.00
1978	2,242.8	1.0	69.3	153.6	136.1	60.2	22.4	5.5	0.4	25.59	25.01
1979	2,304.3	1.0	69.0	159.7	140.3	62.4	22.5	5.5	0.4	25.61	25.02
1980	2,360.2	0.9	68.4	165.1	144.5	64.6	22.6	5.5	0.4	25.64	25.05
1985	2,585.6	0.7	65.2	177.7	171.1	72.2	24.2	5.6	0.4	25.85	25.37
1990	2,692.6	0.5	62.8	182.1	180.2	81.2	25.3	5.9	0.4	26.04	25.57
1995	2,714.1	0.4	60.4	184.3	183.0	81.6	26.7	6.1	0.4	26.12	25.62
2000	2,708.0	0.4	59.4	184.9	184.6	80.1	25.4	6.3	0.4	26.10	25.61
2005	2,701.9	0.4	59.4	185.5	186.4	79.5	23.4	5.5	0.4	26.02	25.58
2010	2,702.5	0.4	59.3	185.5	187.1	79.7	22.9	5.3	0.4	26.01	25.58
2015 and beyond	2,700.0	0.4	59.2	185.6	187.1	79.6	22.6	5.2	0.4	26.00	25.58
SERIES II											
1974	1,818.4	1.2	59.9	116.1	106.8	52.7	21.4	5.3	0.4	25.77	25.19
1975	1,823.4	1.1	58.5	120.1	107.4	51.4	20.6	5.2	0.3	25.71	25.10
1976	1,847.4	1.0	58.0	123.2	110.1	51.4	20.4	5.1	0.3	25.70	25.10
1977	1,886.6	1.0	58.0	126.1	114.0	52.3	20.5	5.1	0.4	25.73	25.13
1978	1,928.8	0.9	57.9	129.2	117.9	53.6	20.6	5.1	0.4	25.75	25.17
1979	1,971.5	0.9	57.8	132.4	121.7	55.3	20.8	5.2	0.4	25.78	25.21
1980	2,009.7	0.8	57.4	135.3	125.0	57.0	20.9	5.2	0.4	25.81	25.25
1985	2,081.2	0.6	53.0	140.9	134.3	61.0	21.1	5.0	0.3	25.96	25.43
1990	2,110.2	0.4	49.8	142.7	139.5	62.9	21.3	5.0	0.3	26.07	25.56
1995	2,113.2	0.3	47.5	143.8	142.0	63.0	20.7	4.9	0.3	26.10	25.60
2000	2,107.0	0.3	46.4	144.2	143.6	62.2	19.6	4.7	0.3	26.07	25.59
2005	2,105.3	0.3	46.3	144.6	145.2	61.9	18.2	4.3	0.3	26.02	25.58
2010	2,104.7	0.3	46.2	144.5	145.7	62.1	17.8	4.1	0.3	26.01	25.58
2015 and beyond	2,100.0	0.3	46.1	144.4	145.5	61.9	17.6	4.0	0.3	26.00	25.58
SERIES III											
1974	1,797.0	1.2	59.1	114.7	105.7	52.1	21.1	5.2	0.4	25.78	25.19
1975	1,695.9	1.0	54.3	110.0	99.5	49.1	20.0	5.0	0.4	25.80	25.18
1976	1,631.2	0.9	51.1	106.8	96.1	47.1	19.1	4.8	0.3	25.82	25.19
1977	1,635.2	0.9	50.2	107.6	97.4	47.0	18.9	4.8	0.3	25.83	25.21
1978	1,673.8	0.8	50.2	110.6	100.8	48.0	19.1	4.8	0.3	25.85	25.24
1979	1,705.7	0.8	50.1	113.1	103.9	48.9	19.2	4.8	0.4	25.86	25.27
1980	1,719.4	0.7	49.5	114.3	105.6	49.5	19.1	4.8	0.3	25.88	25.30
1985	1,712.9	0.5	44.3	115.3	109.2	50.4	18.1	4.5	0.3	25.99	25.44
1990	1,707.8	0.4	40.9	115.8	111.9	50.6	17.5	4.2	0.3	26.06	25.53
1995	1,706.3	0.2	38.8	116.3	114.4	50.4	16.6	4.0	0.3	26.08	25.57
2000	1,703.2	0.2	37.6	116.8	116.0	50.2	15.7	3.7	0.3	26.06	25.58
2005	1,704.5	0.2	37.6	117.1	117.5	50.0	14.7	3.5	0.2	26.02	25.57
2010	1,704.6	0.2	37.4	117.0	118.0	50.3	14.5	3.3	0.2	26.01	25.58
2015 and beyond	1,700.0	0.2	37.3	116.8	117.8	50.1	14.2	3.3	0.2	26.00	25.58

[1]These total fertility rates differ slightly from those published by the National Center for Health Statistics. They are the sum of central birth rates which are based on births adjusted for underregistration and females adjusted for estimated net census undercount.

[2]Rates for 1973 are based on provisional data on total births and 1970 to 1972 trends by age and race.

Source: Bureau of Census, Current Population Reports
Series P-25 #601, October 1975

Table B-4. ESTIMATES OF ONE-YEAR SURVIVAL RATES BY RACE FOR 1972 AND PROJECTIONS OF ULTIMATE ONE-YEAR SURVIVAL RATES, BY SEX AND SINGLE YEAR OF AGE

(These survival rates are consistent with population adjusted to reflect estimated net census undercount. See text for discussion of methodology and assumptions)

Initial age	Terminal age	1972						Ultimate	
		Total		Non-Negro		Negro		Male	Female
		Male	Female	Male	Female	Male	Female		
Births	Under 1	.982470	.986060	.984230	.987850	.972990	.976950	.988440	.990940
Under 1	1	.997328	.997870	.997578	.998124	.995966	.996559	.998127	.998529
1	2	.998850	.999080	.998931	.999151	.998417	.998633	.999047	.999243
2	3	.999263	.999405	.999316	.999457	.999087	.999125	.999280	.999318
3	4	.999417	.999528	.999458	.999570	.999193	.999305	.999517	.999616
4	5	.999484	.999589	.999516	.999624	.999306	.999405	.999566	.999663
5	6	.999493	.999613	.999518	.999643	.999358	.999460	.999562	.999676
6	7	.999506	.999636	.999525	.999661	.999403	.999507	.999563	.999690
7	8	.999538	.999660	.999553	.999682	.999458	.999551	.999586	.999708
8	9	.999595	.999688	.999607	.999707	.999527	.999594	.999635	.999732
9	10	.999662	.999717	.999673	.999733	.999596	.999633	.999698	.999759
10	11	.999708	.999737	.999721	.999752	.999630	.999655	.999743	.999779
11	12	.999686	.999736	.999704	.999752	.999581	.999645	.999724	.999781
12	13	.999556	.999702	.999581	.999721	.999407	.999586	.999601	.999753
13	14	.999321	.999636	.999358	.999663	.999109	.999483	.999378	.999698
14	15	.999029	.999552	.999078	.999586	.998741	.999351	.999100	.999626
15	16	.998731	.999464	.998798	.999507	.998362	.999212	.998823	.999551
16	17	.998472	.999389	.998553	.999442	.997994	.999082	.998579	.999490
17	18	.998260	.999339	.998363	.999401	.997643	.998968	.998391	.999454
18	19	.998110	.999315	.998237	.999388	.997322	.998875	.998267	.999443
19	20	.997987	.999303	.998141	.999386	.997006	.998785	.998172	.999445
20	21	.997861	.999286	.998044	.999382	.996680	.998687	.998077	.999444
21	22	.997769	.999270	.997979	.999375	.996398	.998601	.998013	.999440
22	23	.997756	.999260	.997985	.999369	.996218	.998552	.998021	.999438
23	24	.997813	.999255	.998057	.999362	.996139	.998535	.998095	.999435
24	25	.997917	.999251	.998169	.999355	.996116	.998536	.998209	.999432
25	26	.998026	.999246	.998287	.999346	.996096	.998531	.998329	.999427
26	27	.998106	.999228	.998381	.999328	.996041	.998490	.998426	.999415
27	28	.998135	.999188	.998429	.999297	.995928	.998389	.998479	.999388
28	29	.998106	.999126	.998426	.999251	.995747	.998227	.998483	.999348
29	30	.998041	.999047	.998392	.999194	.995525	.998025	.998456	.999295
30	31	.997967	.998961	.998348	.999128	.995291	.997811	.998421	.999235
31	32	.997888	.998873	.998296	.999060	.995053	.997595	.998379	.999172
32	33	.997802	.998786	.998233	.998993	.994809	.997382	.998325	.999110
33	34	.997707	.998702	.998157	.998925	.994556	.997175	.998257	.999048
34	35	.997595	.998612	.998061	.998852	.994292	.996958	.998170	.998981
35	36	.997455	.998509	.997937	.998767	.994002	.996717	.998057	.998903
36	37	.997281	.998391	.997780	.998665	.993651	.996454	.997914	.998807
37	38	.997068	.998255	.997588	.998545	.993223	.996175	.997742	.998688
38	39	.996813	.998100	.997359	.998404	.992706	.995875	.997536	.998545
39	40	.996519	.997930	.997092	.998245	.992121	.995561	.997298	.998383
40	41	.996190	.997745	.996790	.998072	.991496	.995230	.997027	.998207
41	42	.995822	.997540	.996444	.997882	.990868	.994851	.996714	.998020
42	43	.995413	.997309	.996046	.997672	.990267	.994394	.996350	.997821
43	44	.994961	.997052	.995595	.997443	.989692	.993861	.995935	.997610
44	45	.994463	.996771	.995092	.997192	.989113	.993273	.995469	.997384
45	46	.993918	.996469	.994541	.996920	.988489	.992662	.994956	.997140
46	47	.993319	.996155	.993940	.996632	.987783	.992062	.994405	.996882
47	48	.992663	.995833	.993289	.996332	.986969	.991501	.993821	.996611
48	49	.991945	.995503	.992584	.996019	.986036	.990984	.993202	.996327
49	50	.991166	.995155	.991823	.995686	.985014	.990467	.992539	.996027
50	51	.990326	.994780	.991000	.995328	.983933	.989912	.991819	.995705
51	52	.989414	.994376	.990102	.994936	.982788	.989338	.991016	.995357
52	53	.988421	.993940	.989117	.994506	.981564	.988774	.990108	.994981
53	54	.987341	.993469	.988038	.994034	.980257	.988205	.989090	.994574
54	55	.986180	.992967	.986873	.993522	.978888	.987662	.987972	.994136
55	56	.984940	.992433	.985627	.992972	.977463	.987134	.986771	.993667
56	57	.983599	.991850	.984284	.992389	.975928	.986440	.985496	.993169
57	58	.982132	.991200	.982827	.991776	.974221	.985405	.984147	.992642
58	59	.980530	.990485	.981247	.991131	.972347	.984039	.982719	.992085
59	60	.978809	.989687	.979559	.990428	.970291	.982391	.981213	.991476
60	61	.976982	.988809	.977770	.989648	.968092	.980622	.979611	.990801
61	62	.975031	.987924	.975832	.988821	.965970	.979153	.977835	.990091
62	63	.972930	.987102	.973690	.987980	.964155	.978376	.975802	.989377
63	64	.970669	.986329	.971333	.987109	.962674	.978320	.973497	.988648
64	65	.968251	.985550	.968780	.986181	.961419	.978721	.970967	.987869
65	66	.965680	.984671	.966062	.985144	.960158	.979133	.968280	.986991
66	67	.962947	.983545	.963204	.983894	.958524	.979026	.965468	.985935
67	68	.960037	.982045	.960225	.982334	.956160	.977960	.962545	.984630
68	69	.956936	.980133	.957119	.980431	.952939	.975822	.959515	.983048
69	70	.953626	.977919	.953846	.978266	.949065	.973004	.956325	.981246
70	71	.950086	.975521	.950347	.975916	.944874	.970012	.952914	.979272
71	72	.946291	.972896	.946582	.973319	.940571	.967002	.949282	.977075
72	73	.942215	.969956	.942513	.970377	.936297	.964000	.945442	.974574
73	74	.937827	.966680	.938100	.967063	.932152	.961076	.941374	.971743
74	75	.933083	.963107	.933313	.963433	.927930	.958072	.937031	.968635
75	76	.927938	.959250	.928125	.959520	.923337	.954794	.932361	.965277
76	77	.922381	.955073	.922521	.955177	.918379	.951211	.927329	.961501
77	78	.916406	.950107	.916482	.950217	.913175	.947476	.921904	.957105
78	79	.909981	.944589	.909970	.944575	.907711	.943479	.916041	.952019
79	80	.902910	.938407	.902790	.938243	.901864	.939201	.909613	.946318
80	81	.894996	.931598	.894741	.931265	.895530	.934606	.902501	.940106
81	82	.886413	.924273	.886990	.923741	.888863	.929777	.894788	.933330
82	83	.877506	.916551	.878867	.915769	.882229	.924831	.886638	.925881
83	84	.868417	.908462	.869306	.907370	.875802	.919802	.878095	.917708
84 and over	85 and over	.814702	.849132	.812679	.846894	.841296	.881939	.824272	.855343

Source: Bureau of Censes Current Population Reports
Series P-25, #601 October 1975

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